

Final Report
of the
Small Business Advocacy Review Panel
on EPA's Planned Proposed Rule
Revised Standards of Performance
for New Residential Wood Heaters

August 3, 2011

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Final Report of the Small Business Advocacy Review Panel on EPA's Planned Proposed Rule Revised Standards of Performance for New Residential Wood Heaters

1. INTRODUCTION

This report is presented by the Small Business Advocacy Review Panel (SBAR Panel or Panel) convened for the planned proposed rulemaking on the Revised New Source Performance Standards (NSPS) for New Residential Wood Heaters, currently being developed by the U.S. Environmental Protection Agency (EPA). Under section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), a Panel is required to be convened prior to publication of the initial regulatory flexibility analysis (IRFA) that an agency may be required to prepare under the RFA. In addition to EPA's Small Business Advocacy Chairperson, the Panel consisted of the Director of EPA's Outreach and Information Division within the Office of Air Quality, Planning and Standards (OAQPS), the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the Small Business Administration.

This report includes the following:

- Background information on the potential proposed rule(s) or other policy being considered for development;
- Information on the types of small entities that would be subject to the planned proposed rule, where such information is available;
- Summary of the Panel's outreach activities; and
- Comments and recommendations of the Small Entity Representatives (SERs).

Section 609(b) of the RFA directs the Panel to report on the comments of small entity representatives and make findings on issues related to identified elements of an IRFA under section 603 of the RFA. Those elements of an IRFA are:

- Description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;
- Projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record;
- Identification, to the extent practicable, of all other relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule;
- Any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impacts of the proposed rule on small entities.

Once completed, the Panel report is provided to the Agency considering issuance of the planned proposed rule(s) and included in the rulemaking record. In light of the Panel report, and where appropriate, the Agency is to make changes to the draft planned proposed rule, the IRFA for the planned proposed rule, or the decision on whether an IRFA is required.

It is important to note that the Panel's findings and discussion will be based on the information available at the time the final Panel report is drafted. EPA will continue to conduct analyses relevant to the proposed rule, and additional information may be developed or obtained during the remainder of the rule development process. The Panel makes its report at a preliminary stage of rule development, and its report should be considered in that light. At the same time, the report provides the Panel and the Agency with an opportunity to identify and explore potential ways of shaping the proposed rule to minimize the burden of the rule on small entities while achieving the rule's purposes.

Any options identified by the Panel for reducing the rule's regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound, and consistent with the Clean Air Act (CAA).

2. BACKGROUND

2.1 Regulatory History

The development of the residential wood heater regulations began in the mid-1980's in response to the growing concern that wood smoke contributes to ambient air quality-related health problems. Wood smoke contains fine particles (PM_{2.5}) and also contains other criteria pollutants, persistent bioaccumulative air toxics, other air toxics, and greenhouse gases. Organic carbon is emitted from this source category along with elemental carbon.

Section 111 of the CAA, "Standards of Performance for New Stationary Sources," requires EPA to establish federal standards of performance for categories of new sources for which the source categories cause or contribute significantly to air pollution, and which may reasonably be anticipated to endanger public health or welfare. If it is not feasible to prescribe or enforce standards of performance, the Administrator may instead promulgate a design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous emission reduction, taking into consideration the cost of such emission reduction, and any other non-air quality, health, and environmental impact and energy requirements the Administrator determines has been adequately demonstrated. This level of control is commonly referred to as "best demonstrated technology" (BDT). To determine BDT, EPA uses available information and considers the incremental costs and emissions reductions for different levels of control to determine the appropriate emission limits representative of BDT. Since December 23, 1971, the Administrator has promulgated 88 such standards and associated test methods. The NSPS have been successful in achieving long-term emissions reductions in numerous industries by assuring controls are installed on new, reconstructed, or modified sources.

Section 111(b)(1)(B) of the CAA mandates that EPA review and, if appropriate, revise existing NSPS at least every 8 years. “Standards of Performance for New Residential Wood Heaters” (codified at 40 CFR Part 60, Subpart AAA) were promulgated on February 26, 1988.

EPA has received numerous requests to conduct a review of the current NSPS for residential wood heaters for example, a joint letter dated April 29, 2008, from the Western States Air Resources Council (WESTAR) and the Northeast States for Coordinated Air Use Management (NESCAUM); a letter dated April 14, 2010, from Bay Area Air Quality Management District; and a letter dated August 20, 2010 from NESCAUM. These requests urged EPA to update and develop regulations relating to a variety of wood combustion devices. These groups cited concerns that many communities are measuring ambient conditions above or very close to the current PM_{2.5} National Ambient Air Quality Standard of 35µg/m³. They stated that, in many instances, emissions of wood smoke are a significant contributor to those high PM_{2.5} ambient concentrations. According to Bay Area Air Quality Management District, “There are an estimated 1.4 million fireplaces, wood stoves and pellet stoves which emit wood smoke air pollution that contribute an average of 30% of the PM_{2.5} levels on peak winter days to our air basin (and up to 50% at any single air monitoring station).” The NESCAUM letter indicates that “Recent emissions inventories indicate residential wood combustion represents 25 percent of primary fine particulate emissions in the Northeast.”

Other states, environmental groups, and the Hearth, Patio and Barbecue Association (HPBA) have also recommended changes to the NSPS. These stakeholders suggested that more recent information and technologies justify that the review and revision of the 1988 residential wood heater NSPS are needed to capture the improvements in performance of such units. Also, many of these stakeholders have encouraged EPA to develop additional NSPS for regulating other residential wood-combustion devices, as well as residential devices that burn other fuels, which are in the U.S. market and/or available abroad and which are expected to be imported soon.

Based on the numerous stakeholder expressions of need for revised regulations, EPA’s own concerns about the pollution generated by residential wood heaters, the Clean Air Act’s statutory requirement for a review of the NSPS, and the requests from these groups to address significant changes since promulgation of the 1988 standards, EPA conducted a review of the 1988 NSPS. EPA summarized available information on residential wood combustion, including developments in technology and alternative heating methods; information about implementation of the existing program; and suggestions EPA has heard regarding potential improvements to the standards or development of additional NSPS for wood- and other solid biomass-combustion devices. Based on this review of the current NSPS, EPA concluded that revision of the standards merits consideration in order to reflect improvements in methods for reducing emissions. In 2011, EPA plans to propose for public comment the results of this initial review of the standards for new residential wood combustion heaters. EPA is also planning to make available for public comment policy options to address emissions from other types of residential devices that burn wood, and possibly other fuels as well.

2.2 Description of the Rule and Its Scope

The “current” (1988) NSPS generally requires manufacturers of new residential wood combustion devices (e.g., wood stoves) to design heaters to meet particulate emission limits, have representative model lines be tested by EPA-accredited labs, and attach EPA labels and hangtags after EPA approval. Since the current standard was promulgated, EPA has been encouraging homeowners to upgrade their pre-1988 wood stoves with newer, cleaner, more efficient appliances, which can reduce fine particle emissions by approximately 70 percent or more. EPA’s focus on residential wood stoves for the last 5 years has been on encouraging voluntary upgrades because they can result in very large emission reductions and the greater energy efficiency also means less wood burned and thus less money and time wasted.

EPA anticipates proposing that the current NSPS will be revised to incorporate cost-effective technologies and practices that improve combustion and reduce particle emissions from new residential wood combustion devices. In addition, EPA is considering proposing for public comment provisions that supplement the current standard by addressing emissions from new residential stoves and heaters that burn other solid biomass fuels. Devices that we have discussed as part of this Panel process include:

- Wood Heaters (aka Wood Stoves including Fireplace Inserts, aka wood heaters that are inserted into an otherwise open fireplace)
- Pellet Heaters, including Biomass Pellet Heaters (aka Stoves)
- Single burn-rate Wood Heaters (aka, stoves)
- Cook Stoves
- Camp Stoves
- Other Single-burn-rate Appliances
- Other Solid Biomass Heaters (aka stoves that burn shelled corn, switchgrass, cherry pits)
- Masonry Heaters
- Masonry Fireplace Kits
- Masonry Fireplaces Constructed on Site
- Pre-Manufactured (Factory-built) Low-Mass fireplaces
- Outdoor stoves
- Outdoor Fireplaces, Bake ovens, Chimineas)
- Outdoor Hydronic Heaters (aka outdoor wood boilers)
- Indoor Hydronic Heaters
- Wood-fired Forced-air Furnaces
- Coal Heaters (aka stoves)
- Native American Traditional Bake Ovens
- Residential Outdoor Pizza Ovens

2.3 Related Federal Rules

The federal rule that is related to the proposed regulation under consideration is the “Standards of Performance for New Residential Wood Heaters” (codified at 40 CFR Part 60, Subpart AAA), promulgated on February 26, 1988.

3. OVERVIEW OF PROPOSAL(S) UNDER CONSIDERATION

3.1 Potential Requirements and Guidelines of the Proposal(s)

This section briefly summarizes how EPA anticipates presenting potential revision(s) to the 1988 NSPS for public comment, as well as discussion of whether it is appropriate to consider addressing emissions from other solid biomass combustion devices that are not subject to the current standard, either because they are exempt (e.g., boilers, furnaces, cook stoves, open masonry fireplaces constructed on-site, single burn rate stoves, etc.) or because the devices were not explicitly addressed (e.g., hydronic heaters and pellet stoves with an air-to-fuel ratio of greater than 35-to-1).

EPA is considering proposing for public comment the following revisions to the 1988 residential wood heater standard:

- Tighten emission limits to reflect today's BDT
- Close "loopholes", eliminate exemptions (e.g., single-burn rate appliances)
- Allow for the use of revised test methods, as appropriate
- Streamline certification process and incorporate International Standards Organization (ISO) process plus compliance affirmation
- Improve compliance assurance and enforceability

In addition, EPA is considering providing an opportunity for public comment on whether it is appropriate to address additional source categories, and if so, what the appropriate emission levels should be for the following source categories:

- Pellet stoves explicitly, i.e., not just those that are less than 35-to-1 air fuel ratio
- Wood-fired hydronic heaters and furnaces
- Residential wood-burning fireplaces
- Other residential devices fueled by other solid biomass, e.g., corn, various pelletized biomass
- Coal-fired stoves and heaters
- Pellet quality certification and labeling, if adequate industry standards are not in place in time

EPA notes that further information would be helpful prior to proposing extension of the current Residential Wood Heater NSPS to additional source categories, in order to better understand the need for such a regulation, as well to better understand the relative effectiveness and impacts of regulatory and other policy alternatives that might be useful to address emissions from the additional source categories. Thus, as discussed more fully in a later section, EPA plans to solicit such additional information.

3.2 Example Options for Proposal

EPA is in the early stages of developing for public comment potential proposed revisions to the current NSPS for Residential Wood Heaters. In addition, EPA is still considering the

degree to which it is appropriate to address emissions from other residential solid biomass heaters. At the time of the Panel discussions, EPA had not developed the specific regulatory options for each type of device that would potentially be subject to the standards because all of the emissions and cost data EPA requested either had not been submitted by the potential respondents or fully analyzed, and for certain categories, emissions and cost data did not yet exist; however, EPA intends to develop regulations that consider options to ease the potential burden on small businesses that may be affected by the rule, while still ensuring compliance within the constraints of the CAA and maintaining the overall goals of the CAA. EPA will continue to seek input from small entities throughout the regulatory development process, as appropriate. For example, after EPA develops additional information on emissions, costs, and economic impacts of refined regulatory alternatives and other potential policy alternatives, EPA plans to share that information with small businesses that would potentially be impacted.

As EPA carefully considers all regulatory options, it will be mindful that most manufacturers of wood and other solid biomass-burning appliances are small businesses. The current NSPS gave additional time for initial compliance for small-volume manufacturers, and EPA expects to allow that in the revised standards. The current standard allows manufacturers to show compliance by model lines rather than testing each source. EPA anticipates continuing that approach to reduce costs on the small entities. As the NSPS transitions to an International Standards Organization (ISO)-accredited lab approach for model line certification, EPA expects to give additional time to small laboratories that have experience as EPA-accredited labs.

For masonry heaters EPA is working with these manufacturers and industry associations to develop a proposal for public comment of a two-prong NSPS that, in addition to a performance standard, also allows use of equipment similar to equipment that has previously been approved in lieu of testing each new model line. For single-burn rate appliances, EPA is working with manufacturers to develop a proposal for public comment of appropriate modifications to the current wood heater test method. For “traditional North American cook stoves”, EPA is working with the manufacturers to develop definitions and equipment standards to reduce impacts, for public comment. For “traditional Native American bake ovens”, EPA is working with Tribes to develop a definition that will likely exclude such devices, for public comment. For indoor and outdoor hydronic heaters and forced-air furnaces, EPA is working with industry to develop appropriate modifications to the test methods to consider more flexibility in heat storage options and burn rate options, so that these options and relevant cost information can be made available to the public for comment. As typical, EPA also plans to share that information with the small businesses and discuss regulatory alternatives and potential flexibilities that could ease the potential impacts on small businesses.

As mentioned above, EPA is still developing and refining the estimates of emission levels and costs and economic impacts for potential revisions to the Residential Wood Heater NSPS. Therefore, EPA is presenting the following regulatory options as examples for early discussions only; that is, the EPA decisions on the specific alternatives selected will not be issued until the EPA Administrator signs the proposed rulemaking and associated policy decisions and they are published in the Federal Register for public comment, currently scheduled for June 2011.

Wood Heaters (aka Wood Stoves including Fireplace Inserts, aka wood heaters that are inserted into an otherwise open fireplace)

For non-catalytic wood stoves, EPA is considering various options, including lowering the current weighted-average emission level of 7.5 g/hr to 2.0 g/hr by 2014. For catalytic wood stoves, EPA is considering various options, including tightening the current PM emissions level from a weighted-average of 4.1 grams per hour (g/hr) to a weighted-average of 2.0 g/hr by 2014. For comparison, the Washington State emission limits published in 1995 are 4.5 g/hr for non-catalytic wood stoves and 2.5 g/hr for catalytic wood stoves.

Wood Pellet and Other Solid Biomass Pellet Heaters (aka stoves)

Data for pellet stoves show excellent performance potential with premium wood pellets. Because wood pellet stoves often have emissions less than typical wood stoves certified to meet the 1988 NSPS, EPA has sought and will seek additional information on the emissions and costs and economic impacts on pellet stoves as compared to wood stoves. EPA is especially interested in seeking additional data on performance on non-premium wood pellets and other solid biomass pellets. EPA and the pellet stove manufacturers and many of the pellet manufacturers believe that pellet fuel quality standards are necessary to ensure good stove performance and lower emissions. Thus, EPA is hopeful that the Pellet Fuels Institute's efforts to develop and implement a pellet fuel quality certification program will be completed in time for EPA to avoid having to develop an EPA pellet quality certification program. EPA is considering various pellet stove emission options, including proposing a limit of 1.0 g/hr with compliance by 2014. Another option is to set the emission level at the same level as wood stoves. For comparison, Oregon's tax credit for pellet stoves is based on a level of 2.5 g/hr in 2007.

Cook Stoves and Bake Ovens

As noted earlier, EPA has been discussing various options with the SERs and other small manufacturers. EPA has sought and will seek additional information to better understand emissions from this source category. EPA is considering various policy options for public comment. For example, there is debate on whether the emission performance of cook stoves can be similar to wood stoves and still perform well as a true cook stove. An option is an emission limit of 2.5 g/hr for cook stoves. In Europe, "best available technology" is 3.0 g/hr. Some of the U.S. cook stove manufacturers are having discussions with catalyst manufacturers who believe that level is achievable here, based on their experiences with other wood combustion appliances. Also, EPA is considering an improved definition of "traditional North American cook stoves" developed by the cook stove caucus which the caucus estimates would affect less than 1000 appliances per year. EPA is also considering definitions of "traditional Native American bake ovens" (developed in conjunction with several Tribes) and "ceremonial fires" so that they may be excluded from the standard, if emissions from these sources make it appropriate to do so.

Masonry Heaters

EPA has sought additional information from the SERs and other small businesses to better understand emissions and controls and potential regulatory alternatives for this source category and will seek additional information. EPA is considering various policy options for

public comment, including development of a two-prong standard for masonry heaters—a performance-based emission limit and a design option. A number of the small business manufacturers support the example option of an emission limit for compliance by 2014 of 7.5 g/hr (max), 0.32 lb/mmBTU heat output, and a 2.0 g/hr daily average.

Outdoor Hydronic Heaters (Wood “boilers”)

EPA has sought additional information and consulted with Small Entity Representatives and other small businesses to better understand emissions from this source category and will seek additional information. Over a dozen U.S. models are already qualified at the EPA “Phase 2” voluntary level of 0.32 lb/mmBTU heat output level. Typical European levels are much lower than the Phase 2 voluntary level. Some new designs avoid operation at typically dirty low burn rates. EPA is considering whether it is appropriate to require heat storage, which available data suggests could greatly reduce emissions. EPA is considering various options, including an emission limit of 0.15 pounds per million British Thermal Units (lb/mmBTU) heat output for compliance in 2014. For comparison, a typical State limit for hydronic heaters, as well as the qualifying level for EPA’s voluntary program, specifies an emission level of 0.32 lb/MMBtu heat output in 2010.

Indoor Hydronic Heaters (Wood “boilers”)

EPA has sought additional information and consulted with Small Entity Representatives and other small businesses to better understand emissions from this source category and will seek additional information. Regulatory alternatives under consideration are similar to those for outdoor hydronic heaters. EPA is considering allowing a later date for initial compliance to reduce the small business impacts.

Forced-air Furnaces

As noted elsewhere, EPA has sought additional information and consulted with Small Entity Representatives to better understand emissions from this source category and will seek additional information. After noting the development of numerous State regulations for hydronic heaters and after discussions with EPA and the Environment Canada, some of the manufacturers have initiated efforts to develop better-performing forced-air furnaces. EPA is considering various options, including emission levels equivalent to those for indoor and outdoor hydronic heaters (e.g., 0.15 lb/mmBTU heat output). EPA may also consider a longer time (i.e., beyond 2014) for forced-air furnace manufacturers to comply. For comparison, Canada has adopted an initial level of 0.60 lb/mmBTU heat output.

Fireplaces

As discussed elsewhere, EPA has sought additional information and consulted with Small Entity Representatives and other small businesses and trade associations to better understand emissions from this source category and will seek additional information. Numerous air agencies have strongly recommended that EPA develop national standards for new residential wood-burning fireplaces. HPBA, however, has strongly recommended that the Agency allow EPA’s voluntary fireplace program (2010 Phase 2 voluntary level of 5.1 grams per kilogram of

wood burned (g/kg) to “mature” first. EPA had numerous discussions with HPBA about limits for reducing PM emissions from factory-built and on-site fireplaces. Voluntary Partnership Agreements are in place between EPA and the principal factory-built fireplace manufacturers and some site-built fireplace manufacturers who have agreed to work towards building devices that meet EPA’s 2010 Phase 2 qualifying level. EPA is considering tightening the voluntary Phase 2 level. For the NSPS, EPA is considering various options, including an emission limit of 2.7 g/kg of wood burned based on performance of some of the models qualified under the voluntary program. For comparison, some California Air Quality Management Districts have imposed bans on new residential wood-burning fireplaces since they contribute significantly to fine particle pollution and are principally aesthetic devices. EPA has concerns that a national ban on new construction of residential wood-burning fireplaces would be unreasonable for manufacturers of these appliances, and would force a number of small businesses to close. However, reasonable cost fireplace technologies do exist that can achieve emission reductions of approximately 70 percent, or emissions of less than 2.7 g/kg. EPA may consider giving additional time to comply.

Coal-only Heaters and Furnaces

As noted elsewhere EPA has sought additional information and consulted with Small Entity Representatives and other small manufacturers and will seek additional information to better understand emissions from this source category.

The current NSPS does not regulate coal-only heaters. EPA has requested emissions data from manufacturers of these residential appliances. EPA will conduct limited emissions tests to determine appropriate levels to reduce emissions from these devices; however, EPA may also use transfer of technology as the basis for the standard. If it is appropriate to propose emission limits for this source category, EPA will likely give additional time to these appliances for initial compliance.

Single Burn Rate Appliances

As noted elsewhere, EPA has sought additional information and consulted with Small Entity Representatives and other small business manufacturers to better understand emissions from this source category and will seek additional information. EPA is considering an emission limit for single burn rate appliances that is the same as for wood stoves (e.g., 2.0 g/hr for both catalytic and non-catalytic heater designs). EPA is working with the manufacturers to determine how the test method should be modified.

4. APPLICABLE SMALL ENTITY DEFINITIONS

There are some small businesses in every segment of the residential wood heater industry. Most of the affected companies are small businesses.

For purposes of assessing the impacts of the proposed rule on small entities, small entity is defined as: (1) a small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a

city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. The SBA lists small business size standards matched to industries described in the North American Industry Classification System (NAICS), as modified by the Office of Management and Budget in 2007. Manufacturers of residential wood and other biomass combustion devices are classified as NAICS Code 333414, Heating Equipment (except Warm Air Furnaces) Manufacturing. For NAICS Code 333414, SBA defines a small entity as fewer than 500 employees. Most of the affected companies are much smaller than 500 employees. A few are subsidiaries of large companies, e.g., Hearth and Home Technologies is a subsidiary of HNI Corporation.

5. SMALL ENTITIES THAT MAY BE SUBJECT TO THE PROPOSED REGULATION(S)

Small entities that EPA anticipates being affected by the standard(s) would include almost all manufacturers of wood and other solid biomass-combustion devices listed in Section 2.2 of this document. EPA estimates that roughly 250-300 U.S. companies manufacture residential wood and other solid biomass burning appliances. As EPA obtains more specific data, EPA will refine the estimates. EPA believes that approximately 90 percent of these manufacturers meet the SBA small-entity definition of having fewer than 500 employees.

6. SUMMARY OF SMALL ENTITY OUTREACH

6.1 Small Entity Outreach

Before beginning the formal SBREFA process, EPA actively engaged in outreach with entities that would potentially be affected by the upcoming proposed rulemaking. EPA held conference calls with the Hearth, Patio and Barbecue Association and many of these companies, to discuss the rule under development, and to provide these contacts with an early opportunity to ask questions and discuss their concerns. EPA provided each small business with general information on the SBREFA process and background information on the NSPS rulemaking process and current schedule. Once the pre-Panel process began and potential SERs were identified, EPA held an outreach meeting with the potential SERs on June 29, 2010, to solicit their feedback on the upcoming proposed rulemaking.

6.2 Summary of EPA's Outreach Meeting with Potential Small Entity Representatives—June 29, 2010

On June 29, 2010 EPA held a 2-hour meeting with potential SERs for this SBAR Panel and invited representatives from the Office of Advocacy of the Small Business Administration and the Office of Information and Regulatory Affairs within the Office of Management and Budget. To help them prepare for the meeting/teleconference, on June 14, 2010 EPA sent materials to each of the potential SERs via email. A list of the materials shared with the potential SERs during the pre-panel outreach meeting is contained in Appendix A. The outreach meeting was held to solicit feedback from the potential SERs on the upcoming rulemaking.

Representatives from 26 of the 30 companies and organizations that we selected as potential SERs for this SBREFA process participated in the meeting (in person and by phone). At that meeting EPA solicited written comments from the potential SERs, which were later summarized and shared with the Panel as part of the Panel convening document.

Alex Cristofaro, EPA's Small Business Advocacy Chair, opened the meeting with a short introduction to the Regulatory Flexibility Act (RFA) and SBREFA. This also included an explanation of the Panel process, the purpose of the pre-Panel Outreach Meeting, and the importance of the potential SERs' comments. Following this was a presentation by Gil Wood, EPA's Office of Air Quality Planning and Standards, on the residential wood heater rule under development and EPA's current thinking on the scope of the proposed requirements for the rule. EPA provided the opportunity for questions and comment during the presentation, including discussion of the expanded scope of the rule and changes to the current requirements under consideration for proposal. Some of these changes discussed on June 29 include:

- Tighten emission limits to reflect today's Best Demonstrated Technology (BDT)
- Close "loopholes," eliminate exemptions (e.g., cook stoves)
- Add pellet stoves explicitly
- Add wood "boilers" (hydronic heaters) and furnaces
- Revise test methods, as appropriate
- Streamline certification process and incorporate International Standards Organization (ISO) process plus compliance affirmation
- Improve compliance assurance and enforceability
- Regulate fireplaces
- Regulate devices fueled by other solid biomass, e.g., corn, various pelletized biomass
- Regulate coal-fired heaters (to level the playing field)

EPA OAQPS walked through the briefing, entitled "Revision of Subpart AAA Residential Wood Heaters & Additional New Source Performance Standards (NSPS)." During the briefing, potential SERs raised questions and commented on various slides. Their main comments are described below.

The potential SER representing pellet fuel manufacturers believes that requiring all testing labs and pellet stove manufacturers to use the same quality pellet for emissions testing of stoves will exclude a number of pellet manufacturers.

One of the potential masonry heater SERs expressed concern that most masons do not understand test methods (e.g., difference between methods 5G and 5H, how to measure emissions per burn rate, etc.) EPA needs to take more time to understand the masonry heater industry.

The potential SER representing manufactured fireplaces strongly recommended that EPA let the Agency's voluntary partnership program "mature" first rather than regulating now. The SER is also concerned about requiring testing of fireplace models by an ISO-accredited lab.

The potential SER representing venting manufacturers is concerned about how they are going to be affected by this rule (flexible chimney liners, Class A chimney manufacturers, etc) and questioned whether EPA has done a statistical analysis of how this rule will affect small venting manufacturers.

The potential SER representing pellet stoves commented about testing appliances at low burn rates. A weighted average burn rate is okay as long as the manufacturer is not required to do unnecessary testing and that efficient models designed at low burn rates are not forced out of the market.

Many potential SERs expressed concern that they will need additional time across all appliance categories to develop new model lines for compliance with the revised NSPS. Potential SERs representing pellet fuel manufactures are concerned that EPA will not have the resources to do third-party certification testing for pellet fuel quality.

Potential SERs are concerned about the cost associated with testing models, as well as the R&D costs to manufacturers of constantly testing new products to comply with lower emission numbers.

The potential SER representing pellet stoves asked whether efficiency testing for wood and pellet stoves would be required.

Some potential SERs believe the NSPS would not result in much benefit relative to the amount of PM emissions reduced. Potential SERs also questioned the basis for EPA's benefits estimate for PM2.5 emissions reduction, as well as the benefits for wood stove change-outs.

Potential SERs asked if EPA will grandfather certain wood heater models that meet or burn cleaner than the new standards.

6.3 Summary of SBAR Panel's Outreach Meeting with Small Entity Representatives—August 25, 2010

The SBAR Panel convened on August 4, 2010. The Panel held a formal outreach meeting/teleconference with the SERs on August 25, 2010. To help the SERs prepare for this meeting, on August 11, 2010, the Panel sent a list of questions, preliminary cost information, and other materials to each of the SERs via email. Additional materials were emailed to the SERs on August 19, 2010. A comprehensive list of the materials shared with the SERs for the Panel outreach meeting is contained in Appendix A. The Panel provided the opportunity for questions and comment during the meeting on various aspects of the proposal being developed, including the expanded scope of the rule, changes to the current requirements under consideration, preliminary cost information, and follow-up from the June 29, 2010, meeting on the SERs' ideas for regulatory flexibility. During the August 25 meeting, SERs voiced support for the planned proposed rule and shared specific concerns with the Panel members. As a result of this meeting, EPA received many useful verbal comments, and EPA received many helpful written comments by September 10, 2010. These written comments are summarized in Section 8.

EPA OAQPS presented information to the SERs as an update to the June 29, 2010 outreach meeting, including:

- Overview of proposal ideas
- Small entities potentially subject to the regulation (where available)
- Request for additional information on emissions and costs
- Potential regulatory options for appliance types (where available)
- Preliminary cost information (where available)
- Regulatory flexibility options for small entities (in draft form, where available)

Several of the SERs expressed concerns about the 2-year phase-in time for compliance and requested more time for testing of their devices. Some SERs had questions about the issue of grandfathering certain devices that have already received certification. In addition, some SERs requested that there be a tighter definition of a North American traditional cook stove. Some SERs are concerned that the rule planned for proposal will require a massive effort given the number of categories EPA anticipates regulating, and that some of these appliance types have never been tested. Some SERs strongly believe that more time is needed to develop standards for fireplaces given the high variability of these appliances and the voluntary program EPA has in place.

Ideas for regulatory flexibility included the following:

- Additional time for initial compliance for small-volume entities
- Allowing manufacturers to show compliance by model lines rather than testing each source to reduce costs
- Give additional time to small labs that have experience as EPA-accredited labs as the Agency considers transitioning to an ISO-accredited lab approach
- Working with manufacturers of masonry heaters to consider a two-prong standard that allows use of previously-approved equipment standard options in lieu of testing each new model line
- For single-burn-rate appliances, working with manufacturers to consider appropriate modifications to the test method
- For “traditional North American cook stoves”, working with manufacturers to consider definitions/equipment standards to reduce impacts
- For “traditional Native American bake ovens”, working with Tribes to develop a definition that will likely exclude such devices
- For indoor and outdoor hydronic heaters and forced air furnaces, working with industry to consider appropriate modifications to the test method to consider more flexibility in heat storage options and burn rate options

7. LIST OF SMALL ENTITY REPRESENTATIVES

The following is a list of the SERs that were invited to participate in the process:

State	Name, Organization, Address, Phone, E-Mail, Fax	SER Type
TN	Joe Anderson Knox Stove Works Knoxville, TN	Wood cook stoves
VA	Charles B. Clark., Jr. Brick Industry Association Reston, VA	Fireplace mason
CA	John Crouch Hearth, Patio and Barbecue Association/Pellet Fuel Institute Citrus Heights, CA	Trade association representative
MN	Jim Hussong Kozy Heat Lakefield, MN	Hand-fired wood heaters; non- catalytic technology
MI	Robert Huta RLH Industries Inc. Gaylord, MI	Venting manufacturer
MO	Scott Jacobs Ozark Hardwood Products Seymour, MO	Wood pellet fuel manufacturer
IN	Dean Lehmann Hitzer Coal Stoves Berne, IN	Coal-fired heaters
MS	Frank Moore Hardy Manufacturing Philadelphia, MS	Outdoor wood boilers, wood or pellet
WA	Ben Myren Myren Consulting Colville, WA	Third-party testing laboratory
WA	Chris Neufeld Blaze King Industries Walla Walla, WA	Hand-fired wood heaters; catalytic technology
NH	Scott Nichols, President Bioheat USA Lyme, NH	Outdoor and indoor boilers with thermal heat storage
VA	Jeffrey A. Peterson Potomac Services Sterling, VA	Maintenance Professional – Chimney Sweep

TX	Mitch Pisik Breckwell Hearth Products Arlington, TX	Pellet-fired appliances
WA	Timothy Seaton Timely Construction Camas, WA	Masonry heaters
MD	Richard K. Thomas Courtland Hearth & Hardware Fallston, MD	Wood & Pellet Heater Retailer
MI	Steve Vogelzang Vogelzang International Corp. Holland, MI	Single burn rate appliance manufacturer
TN	Paul Williams United States Stove Company South Pittsburg, TN	Indoor wood furnaces
OR	Clay Dennis, President Zephyr Stoves Inc. Salem, OR	Wood stove manufacturer
	Christian Bach North American Biomass	Wood pellet manufacturer
MN	Eric Moshier Solid Rock Masonry Inc. Duluth, MN	Masonry heater manufacturer
MT	Ron Pihl Warmstone Livingston, MT	Importer and installer of masonry heaters
PA	Charlie Detrich Alternate Heating Systems St. Thomas, PA	Manufacturer of wood gasification hydronic boilers, coal boilers and multi-fuel boilers
	Bryan Light Brick Industry Association	Mason
NY	John Russo Bluestone Boiler Corp. Marcy, NY	Wood gasification boiler manufacturer
WA	James A. Frisch Western Masonry Inc. Woodinville, WA	Mason
MN	Mike Haefner American Energy Systems Inc Hutchinson, MN	Manufacturer of wood, pellet, and corn-burning appliances
IL	Jeff Buczkiewicz	Mason trade

	Mason Contractors Assoc. of America Algonquin, IL	association
WA	Jim Buckley Buckley Rumford Co. Port Townsend, WA	Clay flue manufacturer
IL	Paul S. Anderson Chip Energy Inc. Goodfield, IL	Biomass grill/stove/ furnace manufacturer
	Brian Klipfel Fireworks Masonry Alpha, New Jersey	Builds masonry heaters
DC	Don Surrena National Association of Home Builders Washington, DC	Trade Association Representative

8. SUMMARY OF COMMENTS FROM SMALL ENTITY REPRESENTATIVES

EPA received written comments from 17 Small Entity Representatives (SERs).

1. Myren Consulting, Ben Myren (Third-party Testing Laboratory)
2. Courtland Hearth and Hardware, Richard Thomas (Wood and Pellet Heater Retailer)
3. Bioheat USA, Scott Nichols (Outdoor/Indoor Hydronic Heaters with thermal storage)
4. Kozy Heat, Jim Hussong (Hand-fired wood heaters; non-catalytic technology)
5. American Energy Systems, Inc., Mike Haefner (Manufacturer of wood, pellet, and corn-burning appliances)
6. Warmstone Fireplaces, Ron Pihl (Importer/installer of masonry heaters)
7. Knox Stove Works, Joe Anderson (Wood Cook Stoves)
8. Ozark Hardwood Products, Scott Jacobs (Wood Pellet Fuel Manufacturer)
9. Buckley Rumford Co., Jim Buckley (Clay Flue Manufacturer)
10. Hardy Manufacturing, Frank Moore (Outdoor hydronic heaters without heat storage)
11. Fireworks Masonry, Brian Klipfel (Masonry Heater Manufacturer)
12. Hitzer Coal Stoves, Dean Lehman (Coal-Fired Heaters)
13. Timely Construction, Timothy Seaton (Masonry Heaters)
14. Brick Industry Association, Charles Clark (Fireplace Mason)
15. Hearth, Patio and Barbecue Association/Pellet Fuel Institute, John Crouch (Trade Association Representative)
16. U.S. Stove Company, Paul Williams (Indoor Wood Furnaces-- “warm air”, “forced-air”)
17. Vogelzang International Corporation, Steve Vogelzang (Single-burn-rate appliance manufacturer)

8.1 Economic and Cost Impacts

Many SERs are very concerned that the costs of the NSPS revision under development will reduce their profit margins and sales at a time when they are already struggling due to the

current state of the economy. Specific comments from SERs on economic impact are presented below.

SER Representing Manufacturers of Indoor Hydronic Heaters (HH) with Heat Storage (3)

- The SER believes indoor boiler manufacturers are at an unfair economic disadvantage compared to outdoor boiler manufacturers due to test methods that are designed for outdoor, not indoor HH models, compliance timeframes, sales, etc. The SER believes that many indoor boilers are two-stage gasification boilers or are pellet burning boilers that have small emissions impacts relative to outdoor HH, yet their indoor products are expected to be held to the same schedules, testing methods, and costs. A possible result is that some outdoor HH companies with more experience and higher sales volumes may succeed, while smaller companies like theirs will suffer.
- The SER is concerned about the impact of the standard on the two hydronic heater models he manufactures and that he claims meets the emission limits EPA is considering for these appliances. If they sell only two complying model lines, their staff will be reduced by 50 percent (from 10 to 5 employees); and their revenues would also drop by about 50 percent.
- Selling through trained and certified installers rather than directly to the consumer is best for their industry; however, this change has had a negative impact on their business. They are giving up a margin of up to 32 percent to their dealers, but are selling only a few more units per year. Having local dealers encourages more sales on one hand; but installation by trained professionals costs more, which drives many of their customers to cheaper competition that is sold to them directly.

SER Representing Clay Flue Manufacturers (9)

- The SER submitted responses to EPA's questions concerning costs, market and economic data, including current and projected shipments, current and projected revenues, affect of rule on product offerings, typical costs to develop new models, affect of NSPS on effectiveness of voluntary programs, etc. This information will help EPA complete the economic impacts analysis.
- The SER is concerned that regulating fireplaces would put several hundred thousand people out of work and would destroy an entire segment of the masonry industry without much noticeable benefit.
- The SER believes the NSPS regulation of masonry fireplaces may have a devastating impact on the sale of firebrick, clay flues, mortar, dampers, brick, block and concrete.
- The SER believes that regulating manufactured fireplaces only while exempting custom masonry fireplaces would not likely affect the number of masonry fireplaces built. The SER provided an example of the 1997 Washington State regulation of manufactured fireplaces, which did not include site-built masonry fireplaces. As a result, the SER reported the number of masonry fireplaces built continued to decline at about the same rate as they did nationally.

SER Representing Hand-fired Wood Heater (non-catalytic) Fireplace Manufacturers (4)

- The SER reported that his company sells two non-catalytic fireplace model lines that meet EPA's voluntary fireplace program Phase 2 level at 3.4 g/hr. The SER is concerned that a new, tighter standard of 2.5 or 2.0 g/hr would likely mean discontinuing these models, resulting in their redesigning and retesting a new fireplace at great expense. The SER provided cost and other information to estimate the economic impact of having to replace these non-complying models: cost estimates for engineering, materials, lab testing of approximately \$250,000 to \$300,000; a return on investment of 3 to 5 years; layoffs for some employees.

SERs Representing Coal-fired Heater Manufacturers (12)

- One of the SERs stated that coal stove manufacturers are very small companies without the capital to afford the kind of testing and equipment EPA is considering. The SER is concerned that, because there are no large companies producing only coal stoves, regulating this industry could almost eliminate it.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER estimates a return on investment period of 7 years to recoup design and certification compliance costs, which means the pellet stove industry will need 7 years to certify new product models, and grandfathering of existing product for a minimum of 4-5 years before obsolescence.

SER Representing Wood and Pellet Heater Retailers (2)

- Regarding how price affects consumer demand, the SER stated that the appliances with the most options, easiest to operate, easiest to clean, and easiest to assure proper operation are the most expensive and sell in smaller numbers than less expensive models. The SER added that anything the NSPS does to impact cost of the appliance will impact the final retail of that appliance, which will affect the demand for that appliance.
- The SER commented that 25 percent of sales are "Trade-in/Trade-up" replacements in retail stores. New for old trade-ins have historically been resold for profit, not unlike the auto industry. If trade-ins become non-compliant, the SER believes there would be no market value, and perhaps no incentive to trade up to BDT.
- The SER responded to EPA's request for information and comments about how the NSPS would affect product offerings. The SER believes that if emission levels are lowered, many abundant sources of pellet fuel feedstock (many agricultural) will be eliminated from use in the manufacture of pellet fuel.

SER Representing Importer/Installer of Masonry Heater Manufacturers (6)

- The SER is concerned that the NSPS revision will likely result in more expensive biomass-burning devices, fewer choices for consumers and fewer manufacturers. The SER believes that tighter emissions regulations may result in consumers deciding not to

upgrade their less efficient, dirtier burning devices in use today, another negative for a small industry in a bad economy.

SER Representing Wood Pellet Fuel Manufacturers (8)

- The SER presented information on cost/market/economics requested by EPA. According to the SER, the costs to manufacture pellets over the last few years have increased with raw material costs. The increased demand for raw materials to other markets that are either subsidized or can pay more for the raw material has put pressure on pellet plants to either match the price or obtain another source of raw material. With the decrease in the traditional raw materials the pellet producer could obtain for their plant, the company needed to add costly equipment to process the new streams of raw materials they were not prepared to use previously.
- As a result of the expected new PFI standards, the pellet manufacturers have needed to purchase onsite testing equipment to ensure that their pellets meet the new regulations.
- The economic downturn has decreased the demand for pellets, which has forced closures of many mills.
- The SER believes the NSPS revision can make these problems worse if it restricts the types of pellets and appliances that burn them.

SER Representing Trade Association (15)

- The SER is concerned about pellet or multi-fuel heater manufacturers whose products are certified to pass fire safety testing, but will not be able to pass a specific emission limit.

SER Representing Indoor Wood (warm air, forced air) Furnaces (16)

- The SER stated that the 1988 (current) NSPS set his company back due to the company's limited resources and BDT at that time (i.e., they experienced problems with the early catalytic technology, which was not widely accepted).
- The SER noted that EPA's example NSPS certification (submitted to SERs on August 18, 2010, referenced by John Dupree, EPA) do not include safety testing, which adds at least another \$10,000. The SER requested that EPA consider all costs and impacts when compiling the numbers.
- The SER explained that his company and many other residential wood/other biomass appliance manufacturers have multiple product lines for the purpose of market expansion and diversification. (His company offers a total of 28 models across six different product categories.) The SER is concerned that EPA's expanding the NSPS to include product categories beyond appliances subject to the 1988 standard will force manufacturers to incur R&D costs beyond their available cash flow.
- The SER indicated that his company is the largest manufacturer of warm air furnaces. The SER provided confidential sales data by shipments for 2005-2010, which, according to the SER, indicates that average prices continue to moderate, although shipments have reduced significantly--down 32 percent from 2008 sales and below 2005 levels.

- The SER commented on EPA’s “Draft Cost Analysis” dated August 10, 2010, submitted to the SERs on August 19, 2010. The SER disagrees with one of EPA’s “General Observations” in that draft document: “There is no apparent relationship between the retail price [of today’s wood stoves, deleted by the SER] and the emissions performance.” The SER believes this observation does not apply generally to other product categories like their low technology single burn rate stoves. The SER believes it’s unreasonable for EPA to expect manufacturers to add technologies such as secondary combustion, catalysts, stainless steel tubes, and others without adding to the final cost of other appliances. The SER acknowledges that EPA understands this observation does not apply to hydronic heaters and the impact added technology has on retail prices for those products, but the observation does not apply generally to others.
- The SER stated that his company experiences marginal growth when the ROI is 2 to 3 years; beyond that, their market stops. The SER also stated that their products are backed by a 5-year limited warranty for items such as fireboxes. Electrical and other purchased components, such as cast iron and glass, have 1 to 3-year warranties. The SER stated that product life expectancy is hard to quantify, but in general, they are aware that their products last “decades,” but noted failures as soon as after a few months. The SER provided company-specific data marked “confidential” on their product markups, ROI, and costs for installation, maintenance and warranty claims per product.

SER Representing Single Burn Rate Appliances (17)

- The SER stated that “exempt” single burn rate stoves fill a critical market niche because they are much less costly to build than a certified stove. According to the SER, this makes them more affordable to lower income customers.
- The SER cited 2002 U.S. Department of Agriculture statistics on economically disadvantaged and minority populations to support his argument that “exempt” single burn rate stoves provide a more affordable heat source than other residential wood and other fuel combustion appliances.
- The SER believes there is no need for EPA to regulate “exempt” single burn rate stoves in Washington State where sales of “exempt” appliances are zero, or other areas where sales are “minimal” (i.e., less than 2 percent of sales in eight other states).
- When considering total sales by his company, the SER stated that exempt stove sales account for approximately 30 percent of his shipments.
- The SER estimated that an entry level “exempt” single burn rate stove may be purchased for less than \$250.00. He further estimated that the cost of an entry level “certified” stove is typically twice the amount, but that some “certified” stoves exceed \$2,500 in purchase cost.

8.2 Compliance Deadlines

Many SERs requested more time to comply with the rule because additional resources will be needed to design new models and test and certify new product lines before they can be brought to market. Specific comments from SERs are summarized below.

SER Representing Indoor Hydronic Heater (with heat storage) Manufacturers (3)

- Indoor boilers should be given the same time to comply as outdoor hydronic heaters. The commenter is concerned that EPA is tentatively proposing to allow less time for indoor boilers to comply with the new NSPS than it has allowed for outdoor hydronic heaters, even though indoor boilers are consistently cleaner and are a much smaller product category by sales volume. By 2012, when the final rule is intended to be published, EPA has stated that effectively this will amount to a 5-year compliance time frame from the beginning of the 2007 voluntary HH program. The SER asserts that this holds true for outdoor hydronic heaters, but not for indoor boilers. Indoor boilers would have a compliance period closer to 3 years, but with no clear testing requirement.
- The SER proposes a separate initial [aka, Phase I]compliance date for indoor boilers of 2 years after the signing of the final rule for the following reasons:
 - Indoor boilers can easily be defined as those boilers that have been tested and listed for indoor installation.
 - Much work needs to be done to finalize testing methods for indoor boilers; there are ongoing projects analyzing how two-stage indoor wood boilers perform; and there are ongoing projects that are comparing European testing methods and results to EPA test methods and results.
 - Indoor boiler representatives have not had the benefit of being involved with developing ASTM Method 2618 for testing outdoor wood boilers, which EPA Method 28-OWHH is heavily based on.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER commented that the pellet stove industry will need 7 years to certify new product models to the new NSPS with grandfathering of existing products for a minimum of 4-5 years before obsolescence.

SER Representing Indoor Wood (warm air, forced air) Furnaces (16)

- The SER emphasized the need for more time to finance and develop their products, especially for him and many other manufacturers who make multiple product types. The SER expressed his strong desire to work with EPA toward developing the NSPS and to provide more economic data following the completion of the panel process.

8.3 Environmental Impacts and Benefits

SERs generally question the significance of national PM_{2.5} emission estimates for residential wood and other solid biomass combustion sources compared to other source categories, especially appliances such as wood-burning fireplaces coal stoves. A number of SERs also question EPA's estimated benefits of reducing these emissions. A more detailed summary of the SERs' comments follows.

SER Representing Trade Association (15)

- The SER believes that, if the percentage of new fireplaces that use gas increases from the current 65 percent level to 75 percent, the baseline fireplace emissions would drop to 909 tons and the use of the voluntary program's Phase 2 value would drop to 466 tons. The SER also asserts that virtually all of the air sheds that violate the current 24-hour standard for PM 2.5 and many of the areas "at risk" of violating a new NAAQS should the standard be revised, already have limits on the installation of new wood fireplaces.
- The SER contends that existing data would not support a conclusion that wood-burning fireplace units have the national "significance" required for their regulation under section 111.

SER Representing Masonry Heater Manufacturers (11)

- The SER disagrees with EPA's estimate that removing PM_{2.5} emissions from wood smoke results in a U.S. benefit of \$500,000 per ton. The SER estimates that masonry heaters emit about 200 tons per year, based on about 20,000 masonry heaters in operation. Therefore, using EPA's benefit estimates, removing these emissions is worth \$100 million, or about 15 years of current masonry heater industry gross revenue, or about \$5000 per existing heater. Given EPA's estimated price per heater of \$9000, the SER believes it is difficult to find sufficient benefit to the consumer to continue manufacturing masonry heaters.

SER Representing Coal-fired Heater Manufacturers (12)

- The SER believes that regulating this sector does not make sense, given EPA's statements in previous outreach meetings that coal stoves are not on the national PM_{2.5} emissions inventory. Based on that, the SER concludes that even if emissions from coal stoves were reduced to zero emissions, there would be no measurable benefit.

SER Representing Indoor Wood (warm air, forced air) Furnaces (16)

- The SER believes the warm air furnace category is not significant enough from an air quality standpoint to justify an immediate national-scale NSPS; however, he notes that the data illustrate regional significance [in air quality impacts] in the Great Lakes area of the U.S. where States have continued to lead in the use of these appliances.

SER Representing Clay Flue Manufacturer (9)

- The SER repeated his earlier concerns about EPA’s estimated benefits of replacing pre-NSPS residential wood heaters with cleaner models. The SER questions the assumptions for these numbers, asks how these benefits were determined, and believes these estimates are exaggerated. [The SER is referring to the numbers presented in slide 4 by EPA at the June 29, 2010 outreach meeting with potential SERs: the estimated monetized health benefits of ~\$500,000 per ton of PM2.5 emissions reduced and \$35-86 billion of benefits if all pre-NSPS wood stoves were changed out.]
- The SER estimated that masonry fireplaces are responsible for about 5 percent of the 51,132 tons of particulate matter emissions in EPA’s inventory, about 2,556 tons or about 0.1 percent of the total problem, which the SER believes is a “minuscule amount” to justify putting a whole industry out of business.

8.4 Testing

Many SERs are concerned that there are not enough EPA-approved labs and certifying bodies to test and certify new model lines anticipated for the NSPS revision, which the SERs believe will slow down the certification process. According to the SERs, most of the small companies that represent the products potentially covered by the revised NSPS lack their own testing/certification laboratories. The SERs believe that the cost to manufacturers of developing in-house laboratories and costs to hire third-party testing facilities will be substantial and burdensome. In addition, some SERs commented that many small entities that are new to this process may need to invest more than they can afford on an in-house testing laboratory before actually developing any new product lines. The SERs are concerned that test methods for some appliances are either not complete (e.g., hydronic heaters with thermal storage, masonry heaters, fireplaces) or non-existent (e.g., masonry fireplaces, wood cook stoves, coal-fired heaters). More detailed comments are discussed below.

SER Representing Third-party Testing Labs (1)

- Logjam—The SER expressed concern about testing logjams from test labs unable to keep up with the demand and appliances that are ready for certification testing having to wait for long periods of time before they can actually be tested. According to the SER, potential for logjam is much greater because of the large number of new appliance categories under the revised standard that will require both research and development and certification testing, as well as the large number of presently certified stoves that will require retesting.
- Lack of trained testing personnel for revised standard—The SER believes there will not be sufficient personnel to test new models coming to the labs for certification. The SER indicated that the time to train a technician will take about 4 to 6 months and about 12 to 18 months for a person to learn how to interpret test data and decide what design changes need to be made to reduce emissions and bring a unit into compliance. Manufacturers who do not already have an in-house lab will need to rely on the existing base of outside consultants and lab personnel to help them.

- Complexity of test methods--The SER stated that test methods for biomass-fired appliances are quite complex because the lab must conduct both the emissions test and operate the appliance simultaneously. In most other EPA source tests, the company conducting the test only has to run the test equipment. In addition to the PM test procedure, each appliance type has its own fueling and operating test protocol with procedures and criteria specific to that appliance. All of the criteria for both test methods have to be met for a test to be valid. This means that a lab might be testing a wood stove one week, then a fireplace the next week, followed by a hydronic heater and a masonry heater, which can be extremely time-intensive for a lab to review the rules and test protocols to insure they are performing the test correctly.
- Need for flexibility in testing process--The SER recommended that EPA allow labs flexibility in the procedures they must follow in testing and certifying models. According to the SER, this is particularly true as new, innovative/ hybrid voluntary program products are being brought to the lab that require test procedure modifications so that the units can be tested the way they are designed to operate; for example, units with gas-assisted combustion and units with electric devices (e.g., glow plugs that help ensure ignition in the firebox). The SER recommended that the current NSPS for wood heaters needs to be revised so that these types of products can also be certified. The SER noted problems in the past with EPA not certifying units with gas-assisted combustion and units with electric devices because of overly restrictive rule language. The SER also recommended that EPA not require these types of appliances to be tested a specific way, which stifles innovation and further emissions reductions.
- Cost of Testing—Many SERs expressed concern about the cost of testing. This SER cited as an example ASTM E2515 for fireplaces. It is more expensive to run than the previous method (M5G-1) because of the increased number of sampling trains and the time required to maintain and calibrate them. The SER presented detailed information on hardware costs (filters, etc.) to add support to his claim that the cost of testing is expensive. He suggested that EPA allow the use of either Method M5G-1 or M5G-3 (ASTM E2515) and let the labs and marketplace sort out which test method is least expensive and easiest to use on a production basis.

SER Representing Indoor Hydronic Heaters (with heat storage) Manufacturers (3)

- EPA is proposing to use an outdoor hydronic heater testing method created without a consensus of indoor boiler representatives to test indoor boilers. The indoor HH sub-category could be eliminated from the market with an emissions testing method that was not designed with their products in mind. The SER states that European emissions tests on all of their products clearly demonstrate their products are low emissions products.
- The SER agrees with EPA's plans to adopt the thermal storage test method Appendix II to ASTM 2618. They are actively working on that ASTM method for testing boilers with remote mass thermal storage, but they need more time to complete the method and more input from EPA.

- The SER agrees with EPA’s plans to accredit ISO labs for emissions testing. Choosing ISO labs will create more lab competition and lab availability instantly. Allowing ISO certification for the test should ensure more accurate test results because manufacturers’ instructions will be followed and technicians will have plenty of experience with HH.
- The SER supports a cordwood based testing method.
- The SER supports comparison of existing European test methods and attempts to harmonize the methods.

SER Representing Outdoor Hydronic Heater Manufacturers (10)

- The SER stated that his company built its own testing facility with the help of an EPA certified test lab using the same test monitoring equipment. The SER provided testing costs--the cost of one battery of tests as required by EPA 28 OHH test protocol can be as much as \$25,000 and take one week of round the clock testing. The SER provided estimates for building their own test facility, including the facility (\$40,000); testing equipment (\$50,000); and annual operating costs (\$150,000).
- The SER provided some qualitative information on testing.
- The SER believes that heat storage is a method of reducing emission catch by not having to operate at low burn rates. It also adds significant cost to a hot water heating installation and requires building space that some home owners are not willing to give up.
- Test lab variability—The company has tested two cordwood burners and one pellet burner at certified labs versus their own test lab. The SER stated that particulate catch has been very close, but the efficiency result comparisons have been major issues.

SERs Representing Masonry Heater Manufacturers (11)

- One of the SERs provided estimates on the cost of building an in-house test lab—about \$10,000 to masonry heater installation and changes to his shop plus an additional \$10,000-\$15,000 for the test unit with calibration gases. The cost of in-house testing will increase the cost of his masonry heaters by about 5 percent.
- The same SER estimated the cost of testing a heater design in an EPA accredited lab will be about \$10,000 for the heater construction and an additional \$10,000 for the testing. He estimated this would also increase his heater price by about 5-10 percent.
- The SER also estimated an additional 5 to 10 percent for the cost of the masonry heater if a third-party verification of the on-site design is required.

SER Representing Coal-fired Heater Manufacturers (12)

- The SER asserted that having an in-house test lab would not be cost effective for the coal heater sector, given an average of 200 units per model line per year for his company, which is one of the leading manufacturers producing only coal stoves.
- The SER believes it is impossible to place a real cost on the emissions test because there is no test procedure. The SER added that, with the help of HPBA and Intertek, some very initial testing was done on some West Virginia bituminous coal; however, they determined that the wood stove test procedure will not work. With no workable test

procedure in place, the SER believes there is no way for the test labs to quote costs for the tests.

- According to the SER, another problem developing a test procedure for coal-only heaters is the variability of the coal itself. All the different coal varies so much in how they burn. A stove tuned to burn Pennsylvania anthracite will have a real problem burning West Virginia, Alaska, or any other state's bituminous coal. Even a stove tuned to burn bituminous coal will have a problem with sub-bituminous and lignite.

SER Representing Wood Cook Stove Manufacturers (resubmitted comments from 6/29/10 Pre-Panel Outreach Meeting) (7)

- The SER is concerned that the test methods for the existing NSPS and recommended changes for the NSPS revision are based on room wood heaters; these methods do not apply to wood cook stoves because a cook stove is used for cooking, not for generating heat.
- The SER stated that no data has been collected that reflects the actual use of a wood cook stove, and no standard has been established for testing a cook stove.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER is concerned about the cost of testing. Most small manufacturers do not have in-house testing labs so they must rely on outside labs for certification of their products, which is expensive and more time-consuming.
- The SER responded to EPA's questions regarding certification costs. He provided a breakdown of costs need to bring to market one product "family" (3-4 models of like design) over a 4.5-year period to comply with the new NSPS certification (total about \$2.1 million, including \$75,000 in marketing costs).

SER Representing Trade Association (15)

- The SER commented on the inherent variability in measuring emissions of small wood-burning units, and the resultant lack of precision in test methods, which calls into question the significance of certification test results and the basis for lowering emissions limits for some appliances.
- The SER commented that EPA has never determined the inter-laboratory precision of the method, although the Agency committed to do that by July 1, 1990, in the background information document for the 1988 standard.
- If EPA decides to propose to expand the NSPS to regulate more categories that require certification testing, the SER strongly encourages the Agency to plan for the necessary resources to establish a fully efficient and responsive certification process that will not hinder industry.

SER Representing Indoor Wood (warm air, forced air) Furnaces (16)

- The SER is concerned that only recently did industry reach consensus on its test protocol for the wood furnace category, but that some issues remain (e.g., cordwood versus cribs).

- The SER indicated that the coal category is in the same situation as forced air wood furnaces—he stated that little to no data are available and that a test protocol is somewhere in development.

8.5 Regulatory Options, Emission Limits, and Best Demonstrated Technology (BDT)

A number of SERs submitted comments on EPA’s preliminary regulatory options, emission limits and other BDT recommendations for the NSPS revision for residential wood heaters and additional standards for other solid biomass combustion appliances. The comments from individual SERs are summarized below.

SER Representing Masonry Fireplace Manufacturers (14)

- The SER strongly recommends exempting one-of-a-kind custom masonry fireplaces from the NSPS Revision. Not many custom masonry fireplaces are built, they are inherently clean-burning, typically used only occasional and just are not much of an emissions problem. And, because there are no masonry fireplace manufacturers, regulating one-of-a-kind custom built on site masonry fireplaces would be logistically difficult.
- The SER strongly recommends allowing EPA’s Voluntary Wood-Burning Fireplace Program to mature. So far, only a few fireplaces (mostly manufactured metal fireplaces) have been tested and EPA qualified, but none have been approved by any major air quality management district. Working with local regulators to try to make this program work would give EPA a good idea of the difficulties, marginal effectiveness and real costs of regulating custom-built, on-site masonry fireplaces.

SER Representing Wood Cook Stove Manufacturers (resubmitted comments from 6/29/10 Pre-Panel Outreach Meeting) (7)

- The SER believes that no best demonstrated technology (BDT) exists that would enable the cook stove to meet current or revised standards (no test data to support BDT).
- The SER stated that airtight firebox technology along with a tightening of the tolerances between the cooking surface parts are two examples of the improvements introduced for cook stoves since the 1988 NSPS.

SER Representing Indoor Hydronic Heater (with heat storage) Manufacturers (3)

- The SER commented that, during the development of the residential Wood Heater NSPS, EPA should be cognizant of the fact that there is a commercial, industrial, and institutional NSPS [Boilers] that dramatically affects the same manufacturers.

SER Representing Outdoor Hydronic Heater Manufacturers (10)

- The SER believes the Phase 2 HH voluntary program is a better approach than a regulation and should be given more time to work.

- The SER is concerned that the “passing grade” for outdoor HH keeps moving with no regard for benefits to consumers. Phase 1 was a 70 percent reduction in emissions. Phase 2 is a 90 percent reduction in emissions.
- The SER questions why EPA would require the consumer to purchase an appliance that achieves a 95 percent reduction in emissions when the cost to produce these extremely clean appliances would not justify the purchase. According to the SER, if a consumer cannot get a good return on their investment, they will not buy these costly units and they will just keep repairing their old units and never take them out of circulation. The SER suggests giving the consumer an incentive to remove the old units and replace them with an affordable clean unit.
- Outreach Materials, Labels, Hangtags. The SER states that hang tags should be “Green”. Heat outputs and efficiencies should be a common thread among all wood heating appliances. Emissions and efficiency should be the goal of the new NSPS. According to the SER, the Burnwise website is filled with negative information about Outdoor Hydronic Heaters. The SER believes it would be fair to inform the public how much the manufacturers have been trying to clean up their industry in the last few years instead of proliferating fear. The Burnwise web site could inform the public that the improved efficiency on new generation wood burners would be worth a change out program.

SERs Representing Masonry Heater Manufacturers

Two of the SERs (11, 13) support regulating masonry heaters, but recommend that EPA re-evaluate the 7.5g/hour limit under consideration. The SERs also recommend that EPA look at the 24-hour output cycle of devices or to interpret emissions based on grams per megajoule. The SERs believe that level does not make sense given that a masonry heater burns so cleanly (they burn at high temperatures and high burn rates). The SERs are concerned that the 7.5 g/hr level would mean decreasing the firebox and load size or reducing the burn rate, which will reduce the heaters’ effectiveness and simplicity. The SER adds that the owner will need to burn smaller loads more frequently at this emission level.

SER Representing Wood Cook Stove Manufacturers (resubmitted comments from 6/29/10 Pre-Panel Outreach Meeting) (7)

- The SER is concerned that no best demonstrated technology (BDT) exists that would enable the cook stove to meet current or proposed standards.
- The SER pointed out technological issues related to wood cook stoves that make these appliances uniquely different from other wood combustion appliances (need for extremely low operational temperatures in food simmering applications; need for reliable temperature control).
- To eliminate hijacking of the term “Wood Cook Stove” by some manufacturers in an attempt to avoid regulation, the SER recommended several changes to the definition of wood cook stove.
- The SER expressed concern that, if wood cook stoves are not granted exemption from the planned NSPS regulations, it will effectively end the wood cook stove industry in America. This action will cause undue hardship on people in rural areas who rely on it to cook their food and heat their water. Non-exemption would also force change upon the

religious communities who have used it since its inception as not only a way of life, but an integral part of their religious practices.

SER Representing Wood and Pellet Heater Retailers (15)

The SER responded to EPA's request for comments about outreach and education to the consumer regarding wood and pellet heaters.

- The SER provided a number of suggestions on improving appearance of hangtags.
- The SER commented that EPA's website is well done, but EPA needs to figure out how to increase consumer awareness of its availability. The website should also be prominently displayed in the owner's manuals for all hearth products.

SER Representing Wood Pellet Fuel Manufacturers (8)

- The SER commented that EPA has indicated several times that the new PFI pellet fuel standards are near acceptable to EPA and prefer that PFI administer the program. The SER stated that PFI is confident that, with third party verification, they should administer the standards program.
- The SER believes that Best Demonstrated Technology (BDT) for pellet stoves is based on flawed data. Emissions testing on pellet stoves has been done with softwood, super premium pellets out of the Pacific Northwest. Using these pellets discourages hardwood pellets in the Midwest and Northeast. One percent ash pellets are readily available to most of the country and should be used to determine BDT since it is the most readily available and the most frequently used. Most of the BDT data for pellet stoves is based on pellets that are 0.5 percent ash or lower. The SER believes that, if the current BDT data is used to determine pellet stoves BDT, most of the pellets manufactured in the U.S., especially those using hardwoods in the Midwest, East, and Southeast, will not be certified to be used in pellet stoves. This will negatively impact the pellet production in these areas and could result in the closing of pellet mills.

SER Representing Trade Association (15)

- BDT for New Source Category Determination and Relationship with Wood Heater Changeouts. The SER believes that a new category of residential heating equipment may not be "significant" within the meaning of section 111 in part because the added cost of compliance would drive up market prices to suppress natural turnover in equipment and the efficacy of organized changeout programs. EPA must take into account the impact of tighter emission levels on changeout programs when it determines BDT. If BDT for a particular category is set at a level that increases the cost of products beyond what consumers are willing to purchase, they may decide to keep their older, less efficient appliances. The Trade Association strongly encourages EPA to carefully consider this dynamic and to avoid compromising the success of changeout programs.
- The SER is especially concerned about the decision to include wood burning fireplaces in the NSPS revision. Fireplaces are not heaters. Their purpose and use patterns are very different than heater products such as wood stoves, furnaces, boilers, masonry heaters

and pellet stoves. The SER believes EPA's voluntary fireplace program should mature first before regulating these appliances. The commenter cited usage patterns and surveys by the Census Bureau, the National Association of Homebuilders, and local air agency surveys to support his position.

- The SER strongly encourages EPA to take more time for data-gathering and evaluation than it appears to have undertaken to date, by focusing on the two key parameters of section 111: significance and BDT.

SER Representing Indoor Wood (warm air, forced air) Furnaces (16)

- The SER expressed commitment to developing BDT for forced air furnaces by investing in their own test facility. The SER asked EPA to give them time to test in order to have enough data to support an appropriate emissions level.
- The SER questions the transfer of European technology for Hydronic Heaters to forced air furnaces. The SER notes differences between the two product categories with respect to certain design and operational parameters, which can affect heat output and combustion efficiency. For example, heat storage technology used on some hydronic heater models reduces short cycling which allows these appliances generally to operate more efficiently than forced air furnaces.

SER Representing Single Burn Rate Appliances (17)

- The SER believes that it is not the design of stove that matters, but rather the emission levels, and he expressed his commitment to work with EPA to develop emission standards that would result in new and cleaner exempt/single rate burn appliances.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER believes that a NSPS for residential wood heaters should not be about leveling the playing field by forced compliance to unrealistic standards. The SER added that holding a "low volume product" (i.e., less than 500 units per year) to the same requirements as "industry leading product" would be devastating to most small manufacturers that have a specialty niche to fill.

8.6 Industry Characterization: Demographics, Number and Types of Entities

SER Representing Outdoor Hydronic Heater Manufacturers (10)

- The SER provided information marked "CONFIDENTIAL" on cost, economic and marketing information requested by EPA to help characterize the industry (product shipments, revenues, product cost distribution estimates, new model costs, certification costs, markups, price elasticity, etc.). Details are included in EPA's Confidential Business Information (CBI) files.

SERs Representing Masonry Heater Manufacturers

One of the SERs provided information to help EPA characterize the industry: (11)

- A basic hand built masonry heater costs from \$15,000 to \$25,000. Materials typically cost 50 percent of the heater price. Labor is about 40 percent. Design and marketing are both about 5 percent.
- The popularity of masonry heaters is increasing, especially among “green” building enthusiasts. New homes built for near zero net energy are the masonry heater industry’s largest market. A well-designed home for a family can be heated with 40-50 pounds of wood a day or about 2 to 3 cords a season. The steady low-grade heat output of a masonry heater is ideal for these applications.
- Masonry heaters are built with locally available materials. They require no external power for clean combustion. Heaters have a very long functional life. Heaters have a twenty plus year life span, requiring little maintenance (just a yearly chimney inspection and ash clean up). Any skilled mason can learn to build a masonry heater.

Another masonry heater SER provided additional information: (13)

- By the EPA definition of “small,” the masonry heater industry is comprised only of small businesses. Most businesses consist of a principal and perhaps one employee.
- The SER could identify only 27 possible businesses focused on masonry heaters that 50 percent of their revenue could be masonry heater based. Only two other masonry heater businesses are located in areas where these appliances are regulated.
- Masonry heaters are much less likely to be a primary business in regulated states.
- The vast majority of U.S. masonry heater installations, probably more than 80 percent, are manufactured core-product installations and not custom site-built (brick-by-brick).
- Only 12 specific manufacturers and/or suppliers of masonry heater components are U.S. based or maintain a formal U.S. presence. Of these, only five are not businesses that are also involved in product masonry heater on-site construction.
- Six are U.S. manufacturers making some form of masonry heater for sale to others for installation.
- At least two-thirds of installed U.S. units are manufactured outside the U.S.
- The SER estimates that about 300-400 masonry heaters are manufactured per year in the U.S.; however, numbers for 2009 and 2010 are probably lower than that.
- The SER estimated that annual profit for the average masonry heater business is about \$4000, which means that virtually no producers have profit to invest in research/development/testing/certification.

SER Representing Clay Flue Manufacturers (9)

- The SER submitted responses to EPA’s questions concerning “industry profile” (number of manufacturers, product lines, market share, markups, return on investment, etc.) which will help EPA develop cost and economic impacts for the NSPS revision. The SER referred to his detailed responses provided in an earlier letter. Details are included in EPA’s CBI files.

- The SER stated that there are no masonry fireplace manufacturers, only manufacturers of components such as dampers, firebrick, clay flues, mortar, brick and block. According to the SER, this makes it difficult to complete the questions to SERs EPA sent on August 18, 2010

SER Representing Wood Cook Stove Manufacturers (resubmitted comments from 6/29/10 Pre-Panel Outreach Meeting) (7)

- The SER commented that sales data submitted to EPA as CBI indicate that sales are so small (less than 1,000 units per year), that wood cook stoves represent an insignificant sector of the market.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER estimates a return on investment period of 7 years to recoup design and certification compliance costs, which means the pellet stove industry will need 7 years to certify new product models, and grandfathering of existing product for a minimum of 4-5 years before obsolescence.

SER Representing Wood Pellet Fuel Manufacturers (8)

- The SER presented information requested by EPA on industry profile (number of manufacturers, number of employees, production and capacity). This information will help EPA complete its cost and economic impact analyses.

SER Representing Trade Association (15)

- The SER stated that the number of manufacturers per category is sometimes difficult to pin down, as companies enter or leave portions of the industry according to market conditions.
- The SER presented information on the industry profile for each of the product categories.
- Market share: Very difficult to quantify for each product category. For wood stoves, it is unlikely that any specific product has more than a 5-10% share. For pellet stoves, it is possible that a few models from each of a few separate companies together account for more than 40% of the new units. However, pellet stove sales are extremely volatile, doubling or instead halving from year-to-year based in part on consumer perception of near term energy costs.
- With the exception of a few large manufacturers, virtually all of the companies in the hearth industry meet the definition of small business.

SER Representing Single Burn Rate Appliances (17)

- The SER mentioned some of the operating characteristics of the devices that he describes as “non-affected facilities” and “exempt stoves” [i.e., not subject to the current NSPS], which he claims burn cleaner than previous generation devices.

- Allows for minimal adjustment of combustion air;
- Allows for a very high air to fuel ratio;
- Required by EPA method 28A to burn at a minimum rate of 5 kilograms of fuel per hour;
- Burns constantly at a very hot temperature;
- Not allowed to be dampened down to a level which will allow the fire to smolder
- “Hot fire produces very low emissions”

8.7 Recommendations for Regulatory Flexibility and Regulatory Alternatives

A number of SERs offered suggestions and recommendations for regulatory flexibility and alternatives to EPA’s preliminary thinking about regulatory options for residential wood and other solid combustion devices.

SERs generally recommended more time to comply with the standards because they are concerned about the additional resources required for design modification, re-testing and re-certification process for models subject to the 1988 standard, as well as research and development, design, testing and certification of an expanded number of product categories that were not previously subject to that standard. SERs also recommended different initial compliance dates for different categories, particularly for manufacturers of new, additional appliances that were not subject to the current NSPS.

The SERs recommended flexibility and simplification in testing and certifying procedures for determining compliance. One SER recommended that EPA develop a streamlined product approval process for appliance categories that lack test data by extrapolating data from European Union testing of similar models in other product categories that has already demonstrated lower emissions.

SERs recommended more time to develop test methods under development for their products, especially for product categories that were not subject to the 1988 standards. SERs recommended that EPA allow manufacturers to use ISO-accredited laboratories overseas where some manufacturers’ products are developed. They believe this will lower costs for testing as some manufacturers have their own ISO laboratories where overseas testing agencies certify products.

As a way to reduce the cost of testing appliances with multiple fuels, some SERs recommended that EPA allow manufacturers to test to the worst-case fuel, and if it passes, no additional testing should be required for the other fuels.

A number of SERs recommended that EPA continue work on voluntary programs before considering standards for new residential wood/other solid biomass combustion product categories (e.g., hydronic heaters and fireplaces). Some SERs recommended that EPA continue to provide incentives to homeowners to replace old, dirtier appliances with cleaner ones.

Some SERs recommended exempting a number of product categories from the NSPS (e.g., manufactured fireplaces, masonry fireplaces, single burn rate stoves, masonry heaters, coal stoves) primarily because costs associated with research and development, design/re-design and compliance will likely drive a number of companies out of business.

SERs representing masonry heaters support regulating masonry heaters, but recommend that EPA re-evaluate the 7.5g/hour limit under consideration. The SERs also recommend that EPA look at the 24-hour output cycle of devices or to interpret emissions based on grams per megajoule.

Additional recommendations from individual SERs are summarized below.

SER Representing Third-party Testing Laboratories (1)

The SER recommended that EPA allow labs flexibility in the procedures they must follow in testing and certifying models. According to the SER, this is particularly important because new appliances that burn multiple fuels and new appliances that were not subject to the 1988 NSPS are being brought to the lab that require modifications to test procedures to accommodate design and operational specifications.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- The SER recommends that wood pellet/biomass/corn/flex fuel appliances would be good candidates for a voluntary program, transitioning to a full certification program over the next 7 years. The SER estimated that the wood pellet market makes up only 5 percent of the market, and multi-fuel appliances less than 2 percent of the market. The SER commented that voluntary programs are an effective mechanism for bringing a product that has been traditionally regulated to a point where full certification can be achieved with self-regulation and without undue financial burden.

SERs Representing Masonry Heater Manufacturers

One of the SERs (13) recommends that EPA--

- Develop flexible testing requirements for masonry heater manufacturers, including grandfathering existing testing and approvals and minimizing retesting and recertification;
- Delay regulation to allow time for sales of existing and redesigned products to fund the research/development/testing/certification process;
- Develop a streamlined product approval process for product categories that lack test data by using existing testing of similar products in other categories that has already demonstrated lower emissions. (The SER suggested that the Austrian mathematical modeling standard EN15544, which has been accepted by the European Union, is a good place to start for custom builders.) The SER recommended that a less rigorous testing standard (carbon monoxide based) could be applied when a heater design is known to be very similar to existing designs.

- Authorize industry trade associations or other organizations to act as certifying bodies for members constructing already tested and/or approved heater designs. This would most likely take the form of certifying member installers to set standards (the MHA's certification program was intended to be a start but lacks any significant rigor), and then rigorously following up to make sure they were on task.
- Remove real cooking appliances (i.e. masonry cook stoves and ovens) and traditional fireplaces from the NSPS so that this source of ancillary income for masonry heater builders remains steady. The SER recommended that EPA should include masonry heater industry stakeholders in developing regulations for these products.

SER Representing Indoor Hydronic Heaters with Thermal Storage (3)

- The SER recommends that EPA establish an incentive program for this source category (e.g., Energy Star type rating) that would recognize and reward the best companies and their products. The SER also recommends that this program should encourage sales and installation by trained professionals (e.g., installer certification).
- The SER recommends that EPA allow manufacturers to use ISO-accredited laboratories overseas where his products are developed. This will lower costs for testing as some manufacturers have their own ISO laboratories where overseas testing agencies certify products.
- The SER recommends that EPA give them more time to develop the ASTM method for testing boilers with remote mass thermal storage (ASTM 2618 Appendix II).
- Indoor boilers should be given the same time to comply that outdoor hydronic heaters have (i.e., 7 years).
- Because indoor wood and wood pellet boilers represent a small fraction of sales as compared to outdoor hydronic heaters, the SER recommends that indoor boilers should not be held to the same schedules, testing methods, and costs as outdoor units; otherwise, the SER is concerned that this product category could be eliminated from the market. EPA should take time to assess what makes indoor boilers unique. Indoor boilers should be given more consideration much the same way that coal stoves and other small product categories have been given.
- The SER recommends a separate initial compliance date for indoor boilers of 2 years after the signing of the final rule for the following reasons:
 - Indoor boilers have a relatively low sales volume and a relatively low air impact as compared to outdoor wood boilers.
 - Indoor boilers can easily be defined as those boilers that have been tested and listed for indoor installation.
 - There remains much work to be done to finalize testing methods that relate to indoor boilers; there are ongoing projects analyzing how two- stage indoor wood boilers perform; and there are ongoing projects that are comparing European testing methods and results to EPA testing methods and results.
 - Indoor boilers representatives have not had the benefit of being involved in the development of ASTM Method 2618 for the testing of outdoor wood boilers, which EPA Method 28 for hydronic heaters is based on.
- Because indoor wood and wood pellet boilers represent a small fraction of sales as compared to outdoor hydronic heaters, the SER recommends that indoor boilers should

not be held to the same schedules, testing methods, and costs as outdoor units. Otherwise, the SER is concerned that this product category could be eliminated from the market. EPA should take time to assess what makes indoor boilers unique.

SER Representing Single Burn Rate Appliances (17)

- The SER recommends that EPA create separate standards and test procedures for both exempt and certified single burn rate appliances. The SER expressed concern about forcing one standard and test procedure on two stoves of substantially different design and operation.

SER Representing Wood, Pellet, and Corn-burning Appliance Manufacturers (5)

- As a way to reduce the cost of testing, the SER recommends that EPA allow manufacturers to test to the worst-case fuel, and if it passes, no testing should be required for additional fuels.
- The SER recommends that EPA give manufacturers 7 years to certify new wood/pellet/corn burning products, and that EPA grandfather existing products for a minimum of 4 ½ years. This transition is needed to clear out pipelines, raw materials and inventories of existing product, as well as to allow for re-tooling and design/redesign of new models.
- The SER recommends not including corn/flex fuel appliances in the revised NSPS at this time. Instead, the SER recommends a voluntary program for these devices.

SER Representing Wood Cook Stoves (7)

- The SER recommends tightening the definition of a wood cook stove, thereby eliminating the possibility of companies using the term, “wood cook stove”, as a method to usurp regulation.
- The SER recommends a continuation of exempt status for the true North American Wood Cook Stove, as they are a de minimis segment of the hearth industry.

SER Representing Clay Flue Manufacturers (9)

- The SER recommends exempting one-of-a-kind custom masonry fireplaces from NSPS regulation
- The SER recommends using the new EPA Voluntary Wood-Burning Fireplace Program instead of regulating these appliances. The SER added that only a few fireplaces (mostly manufactured metal fireplaces) have been tested and EPA qualified, but he asserts that none has been approved by any major air quality management district.

SER Representing Outdoor Hydronic Heaters without Heat Storage (10)

- The SER recommends that EPA provide incentives to the consumer to remove “old” units and replace them with an affordable clean unit.

- The SER recommends that product efficiency and heat output information be included on hangtags and labels for all certified appliances, and that EPA’s Burnwise website would be a good way to encourage homeowners to replace their old wood burning appliances with new generation appliances with improved efficiency.

8.8 SBREFA Process

Two SERs expressed concern that the SBREFA Process needs to be suspended until EPA has more information to support regulatory options.

The SER representing Wood Pellet Fuel Manufacturers (8) stated that the Panel seems to be using this process as more of an information-gathering exercise instead a discussion of the pertinent issues. The SER expressed disappointment that by that time EPA issues their proposal, the SERs will not have an actual forum to discuss their concerns about how the proposal will affect them economically because the SBREFA panel will have already convened and finished its work. The SER further stated that this outcome does not seem fair to the many small businesses that will have to live with this decision.

The SER representing the industry trade association (15) stated that it was concerned that the materials “never included a full set of regulatory options and analysis. When we reviewed the EPA guidance on the process, ... we anticipated that the SERs would see a presentation with enough information to fully ‘judge the likely impact of the rulemaking.’ ...Much of this process seems to be an information gathering process for EPA rather than an opportunity for small business to provide specific feedback on specific options.” This SER requested that EPA re-activate the SBREFA process once it has developed its regulatory options and impact analyses. This SER stated that would allow the SERs to have a more meaningful opportunity for comment and analysis than they have had in this SBREFA round. This SER also stated that giving the SERs a second SBREFA round to more clearly inform the agency of the real world consequences of its NSPS options would enable the SBREFA Panel to give the Administrator a better-informed set of recommendations.

9 PANEL FINDINGS AND DISCUSSIONS

9.1 Number and Types of Entities Affected

Small entities that EPA anticipates being affected by the standards would include almost all manufacturers of wood and other solid biomass-combustion devices listed in Section 2.2 of this document. EPA estimates that roughly 250-300 U.S. companies manufacture residential wood and other solid biomass burning appliances. SER 15 [HPBA] indicated that there are “at least 60” appliances manufacturers and 200 companies have self-identified as component manufacturers and all but a few are small businesses. As EPA obtains more specific data, EPA will refine the estimates. EPA believes that approximately 90 percent of these manufacturers meet the SBA small-entity definition of having fewer than 500 employees. SER 14 [BIA] indicated that there were 140,000 residential and non-residential masons in 2008 but did not indicate how many construct site-built masonry fireplaces.

9.2 Potential Reporting, Record Keeping, and Compliance Requirements

The General Provisions, subpart A of 40 CFR part 60, list the requirements for recordkeeping and reporting to ensure compliance with, and effective enforcement of rules established under section 111 of the CAA. As part of any rulemaking, these requirements are evaluated to determine the minimum recordkeeping and reporting necessary to ensure compliance with and enforcement of the proposed rules. The Panel recommends that EPA minimize the potential burden of compliance on small entities.

EPA is looking at opportunities for reducing the burden on small entities of potential reporting, record keeping, and compliance requirements. For reporting and record keeping requirements in the revised NSPS, EPA is considering providing flexibilities similar to those in the 1988 NSPS. For example, the Panel recommends that EPA continue allowing manufacturers to keep records and report test results for a representative model appliance rather than testing and reporting results for each individual unit.

Many SERs expressed concern about potential compliance requirements associated with the planned proposed standards. Specifically, SERs anticipated potential logjams at third-party testing facilities as a result of EPA's regulating a broader range of product categories, which the SERs believe will slow down the certification process. In addition, many SERs are concerned about the costs associated with compliance requirements, including research and development, preliminary testing and certification of new products and recertification of products approved under the 1988 NSPS. The Panel recommends that EPA consider ways to streamline compliance certification, in particular, identifying flexible approaches and procedures that will reduce the burden and time for manufacturers to complete the application, testing and approval process for new model lines. For example, the Panel recommends that EPA consider allowing the use of International Standards Organization (ISO)-accredited laboratories and certifying bodies to expand the number of facilities that would be required for testing and certification of the new residential solid biomass combustion appliances. Additionally, the Panel recommends that EPA consider different compliance time frames for different product categories to reduce the potential for logjams at test labs and the overall impact on companies that manufacture multiple categories. More flexible compliance schedules would also help manufacturers of additional new appliances, such as hydronic heaters and forced-air furnaces, which were not subject to the 1988 standards.

9.3 Related Federal Rules

The federal rule that is related to the proposed regulation under consideration is the "Standards of Performance for New Residential Wood Heaters" (codified at 40 CFR Part 60, Subpart AAA), promulgated on February 26, 1988. The current (1988) NSPS generally requires manufacturers of new residential wood combustion devices (e.g., wood stoves) to design heaters to meet particulate emission limits, have representative model lines be tested by EPA-accredited labs, and attach EPA labels and hangtags after EPA approval. Since the current standard was promulgated, EPA has been encouraging homeowners to upgrade their pre-1988 wood stoves with newer, cleaner, more efficient appliances, which can reduce fine particle emissions by

approximately 70 percent or more. EPA's focus on residential wood stoves for the last 5 years has been on encouraging voluntary upgrades because they can result in very large emission reductions, greater energy efficiency, less wood burned, and less money wasted.

EPA anticipates that the current NSPS will be revised to improve combustion and reduce particle emissions from new residential wood combustion devices, as well as expanding the scope of the current standard by including new residential stoves and heaters that burn other solid biomass fuels.

9.4 Regulatory Flexibility Alternatives

As described above in Section 3.2, RFA, as amended by SBREFA, requires that EPA consider providing regulatory relief as appropriate, in accordance with EPA's authority under the Clean Air Act. EPA evaluated potential regulatory alternatives with this in mind.

As discussed in Section 6, EPA initiated discussions with potential SERs and others on a number of potential regulatory flexibility alternatives to provide relief to small businesses. EPA presented subsets of those alternatives to the potential SERs in the meeting of June 29, 2010, and to the SERs and the Panel in the meeting on August 25, 2010.

The Panel fully considered the very helpful input and feedback from the SERs and discussed the alternatives EPA initially presented and additional options generated by the SERs and the Panel. Considering all of this information, the Panel has a number of recommendations for the EPA Administrator to consider as she makes decisions on revisions to the Residential Wood heater NSPS and potential additional NSPS.

Overall recommendations for the EPA Administrator to consider that apply to all source categories discussed by this Panel:

The purpose of the Panel process is to solicit information as well as suggested flexibility options from the SERs, and the Panel recommends that EPA continue to be open to receiving suggestions from the SERs and other small businesses and other stakeholders during the development of the rulemaking(s). The Panel thanks the SERs for the helpful information they have already provided and for their offers to provide additional information.

As much work remains to be done by EPA before the scheduled proposal, e.g., detailed cost and economic analyses of the refined regulatory alternatives and suggested flexibility options; the Panel recommends that EPA consider providing such additional information to stakeholders, including the SERs and other small businesses, when it becomes available.

Many of the SERs and the Panel have concerns about the breadth of this rulemaking and the challenges EPA faces in conducting rulemaking for all of these source categories at one time and the challenges that the small businesses will face in having to comply with standards for all of these source categories at one time. The Panel recommends that EPA should consider focusing efforts first on emissions sources that have the greatest potential to impact public health through the magnitude of emissions and population exposure. The Panel is well aware of the adverse effects of the 1988 NSPS on wood stove manufacturers, and is sensitive to the need to

carefully develop a rule that will minimize business closures, while still achieving significant emission reductions. All panel members believe that EPA has adequate information to move forward with developing revisions that apply to the residential wood heater categories that are already regulated by the 1988 NSPS. However, SBA and OMB recommend that the EPA Administrator should consider taking more time to collect additional information to better determine best demonstrated technology for the certified wood heater category. Their recommendation rests on their conclusion that EPA did present to the Panel enough information to justify regulation of this category, but did not adequately inform the SERs about the other categories.

SBA and OMB believe, based on the information available from EPA and the SERs, at this time, that they cannot conclude that a nationwide NSPS limit on many categories would be the preferred approach for reducing wood heater emissions. As much work remains to be done by EPA before the scheduled proposal, e.g., detailed cost and economic analyses of the refined regulatory alternatives and suggested flexibility options; the Panel recommends that EPA consider providing such additional information to stakeholders, including the SERs and other small businesses, when it becomes available. SBA recommends that EPA initiate a new SBREFA panel process for these specific categories if the Administrator determines that she would like to proceed to propose regulations for these categories. Both offices would participate in further SBREFA processes, if for example, EPA were to initiate a new SBREFA panel process for these specific categories.

As mentioned above, the Panel recommends that EPA should consider focusing efforts first on emissions sources that have the greatest potential to impact public health through the magnitude of emissions and population exposure. SBA and OMB believe, based on the information available from EPA and the SERs at this time, that they cannot conclude that a nationwide NSPS limit on many categories would be the preferred approach. The Panel recommends that the EPA Administrator should consider assessing the availability of data to better characterize each source category prior to considering proposal of standards. In particular, the SERs did not have an opportunity to provide their views on EPA emission estimates for each category not already covered by the 1987 listing of "residential wood heaters" in order to determine whether those categories would constitute a significant source of emissions under section 111 of the Clean Air Act. EPA developed information on projected future emissions from wood stoves, pellet stoves, wood fireplaces, outdoor fireplaces, and hydronic central heating systems for the Panel members, however that information was not yet available at the time the Panel was consulting with SERs. For several categories, either no emissions testing protocol exists or is still under development. For some categories, such as site-built fireplaces, it appears difficult to develop a test protocol or a workable emissions standard. This Panel is not commenting on the viability of specific emission limits, or how to develop such emission limits, and has not taken into account intra- or inter-lab variability, or other emissions-related issues, for coal stoves for which no emissions data are yet in existence.

The Panel encourages EPA to consider flexibilities that will most directly minimize the small business burdens: Exemptions from the standards based on very low volume production, and delayed compliance dates for low volume production. The delayed compliance approach is predicated on the concept that it will take a number of years for manufacturers to recover the

costs of the R&D investment in order to achieve compliance. Exemptions are justified for some very low production volumes where it may not be possible to ever recover the costs, even with a delayed compliance deadline.

The Panel encourages EPA to develop information about the effectiveness of local programs including voluntary standards regulating such wood heating devices vs. the national standards. For example, many US Eastern areas do not demonstrate PM 2.5 nonattainment in the winter, but only in the summer; in this circumstance wood stove emissions have no role in remedying nonattainment designations. SBA and OMB believe that National standards can conflict with local and regional strategies. Further, SBA and OMB believe that national standards could hurt efforts to voluntarily change out higher-emitting wood heaters by raising the price of the new wood heaters. This is of particular concern to SBA and OMB for new wood heating devices that are currently not regulated by EPA.

SBA and OMB believe it is unclear whether adoption of a more stringent standard for new sources will slow the adoption of new, cleaner burning stoves, potentially delaying improvements in air quality. SBA and OMB further believe, based on the information available from EPA and the SERs, at this time, that they cannot conclude that a nationwide NSPS limit on the other categories would be the preferred approach for reducing wood heater emissions.

EPA intends to collect additional information before issuing a proposal and to share that information with stakeholders, including SERs and other small businesses, as appropriate. However, EPA believes that SBREFA envisions a process in which available information is shared with SERs and Panel members and feedback is received in the form of a Panel Report. EPA staff intend to refine its economic and technical analyses based in part on this input and present regulatory options to the Administrator for her consideration. Thus, EPA believes that the absence of complete information at this time should not preclude consideration of regulatory options that may turn out to be viable.

The Panel recommends that the EPA Administrator should consider assessing the availability of data to better characterize each source category prior to considering proposal of standards. In particular, EPA should consider characterizing the emissions per unit, operating hours per year, and the distribution of emissions across the unit types within each category under discussion in this report in order to better understand the magnitude of emissions reductions that may or may not be reduced through alternative regulatory and non-regulatory mechanisms.

The Panel recommends that the EPA Administrator should consider, where beneficial, adopting behavioral approaches including but not limited to disclosure and labeling, as well as increasing the public's awareness of voluntary programs.

The Panel recommends that the EPA Administrator should consider better describing exemptions, phase-in, voluntary programs, credits/averaging at the manufacturer or regional level, and other approaches prior to proposing any emissions standards.

The Panel recommends that the EPA Administrator should consider the availability and feasibility of certification, testing labs, testing standards, and other requirements prior to proposing any emissions standards.

The Panel recommends that the EPA Administrator should consider emphasizing that the NSPS will address only new units, and the EPA Administrator should consider clarifying whether exemptions will be considered for historic replica equipment and historic property renovations.

The Panel recommends that the EPA Administrator should consider exempting small production lines where the firm may be unable to recover the R&D and related expenses in a reasonable amount of time.

For categories where EPA estimates that the nationwide emissions are less than 300 tons per year (or some other value), SBA and OMB recommend that the EPA Administrator should consider options of not issuing an NSPS but rather consider allowing Regions and States to control such sources and consider other efforts, including voluntary standards to lower emissions. EPA does not agree with this recommendation, principally because it is premature, especially considering the strong recommendations by many states that EPA regulate these sources as soon as possible to provide another tool to help them with their efforts to reduce wood smoke emissions.

At this time, SBA and OMB recommend that EPA not move forward with proposed emission limits for the following categories: pellet stoves, indoor hydronic heaters, biomass pellet stoves, masonry heaters, masonry fireplace kits, site-built masonry fireplaces, coal stoves, cook stoves, bake ovens (including Native American Traditional Bake Ovens), camp stoves, outdoor fireplaces, and chimineas. EPA does not agree with the scope of this recommendation. EPA believes that such a broad recommendation is inappropriate for most of these categories, and premature at best, for all the categories. As stated elsewhere in this report, EPA does expect that the NSPS(s) will not likely include bake ovens, outdoor fireplaces, chimineas, ceremonial fires, and commercial pizza ovens. SBA and OMB recommend that if EPA decides to later pursue regulation of categories other than the certified wood heaters, that EPA convene another panel to address those categories at the appropriate time. EPA does not agree with this recommendation because EPA believes that the SERs have already had opportunity to address those categories. As stated in numerous places, EPA will provide additional information (e.g., economic analyses of refined alternatives) to stakeholders including the SERs and other small businesses when it becomes available.

Recommendations for the EPA Administrator to consider that apply to individual source categories:

Wood Heaters (aka Wood Stoves including Fireplace Inserts, aka wood heaters that are inserted into an otherwise open fireplace)

OMB believes that there is not sufficient information to determine whether the existing standard is insufficient, and whether revisions to the existing standard would perversely harm air quality by reducing the adoption of new low-emitting heaters. As discussed elsewhere, EPA does not agree with this conclusion.

The Panel recommends that, if EPA pursues regulatory changes, the EPA Administrator should consider adopting potential changes to ASTM Method E 2515 as appropriate in order to improve method repeatability and reproducibility. For example, some helpful changes are expected during the ASTM Committee meetings scheduled for October 11 & 12, 2010.

The Panel recommends that, if EPA pursues regulatory changes to the NSPS, the EPA Administrator should consider reviewing the availability of test labs and the intra- and inter-lab precision, and the importance of this variability in determining emission standards and to regional manufacturers.

The Panel recommends that the EPA Administrator should consider limiting potential enforcement penalties for emission audits for at least 2 years while gathering additional precision data for updates to the test method(s).

The Panel recommends that the EPA Administrator should consider longer time for initial compliance in order to reduce the economic burden on small businesses.

The Panel recommends that the EPA Administrator should consider different compliance deadlines for different categories to reduce the potential for logjams at labs and the overall economic impacts on small businesses that manufacture multiple categories.

The Panel recommends that the EPA Administrator should consider additional time or exemptions for small production-volume, small business manufacturers.

The Panel recommends that the EPA Administrator should consider (as a potential alternative to a more stringent emission standard) behavioral approaches such as labeling and disclosure as well as increasing public awareness of existing voluntary programs such as BurnWise.

Pellet Heaters (aka Pellet Stoves)

SBA and OMB recommend that the EPA Administrator should consider not developing NSPS revisions for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

EPA recommends that the EPA Administrator should consider the wood stove recommendations above for pellet stoves as well.

EPA recommends that the EPA Administrator should consider emission allowances for higher ash content of some pellets.

EPA recommends that the EPA Administrator should consider setting the NSPS at the same emission level as for wood stoves in order to not reduce sales of pellet stoves that are typically cleaner than wood stoves.

EPA recommends that the EPA Administrator should consider the establishment of certified pellets.

Single-burn-rate heaters

EPA recommends that the EPA Administrator should consider the wood stove recommendations above for single-burn-rate stoves also.

EPA recommends that the EPA Administrator should consider setting the NSPS at the emission level typical for mid-level burn rates in order to be confident that the emission level will be achieved during initial compliance tests.

Outdoor Hydronic Heaters

EPA recommends that the EPA Administrator should consider continuing to pursue method comparisons and potential harmonization of EPA, ASTM, CSA, and European emission test methods.

EPA recommends that the EPA Administrator should consider using the ASTM emission test procedure currently being developed for heat storage options, as appropriate.

EPA recommends that the EPA Administrator should consider continuing to lead efforts to conduct test method information exchange (including simultaneous testing) between the U.S. and Europe.

EPA recommends that the EPA Administrator should consider Maine's approach of applying conservative assumptions in order to use data from other test methods.

EPA recommends that the EPA Administrator should consider longer time for NSPS emission limits tighter than the voluntary program in order to reduce the potential economic impacts.

Indoor Hydronic Heaters

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

EPA recommends that the EPA Administrator should consider continuing to pursue method comparisons and potential harmonization of EPA, ASTM, CSA, and European emission test methods.

EPA recommends that the EPA Administrator should consider using the ASTM emission test procedures currently being developed for heat storage options, as appropriate.

EPA recommends that the EPA Administrator should consider continuing to lead efforts to conduct test method information exchange (including simultaneous testing) between the U.S. and Europe.

EPA recommends that the EPA Administrator should consider Maine's approach of applying conservative assumptions in order to use data from other test methods.

EPA recommends that the EPA Administrator should consider longer time for initial compliance for indoor hydronic heaters than outdoor hydronic heaters in order to allow more time for outreach and more time for addressing testing issues.

EPA recommends that the EPA Administrator should consider longer time for NSPS emission limits tighter than the voluntary program in order to reduce the potential economic impacts.

Wood Furnaces (forced –air)

SBA recommends that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

EPA recommends that the EPA Administrator should consider continuing to pursue method comparisons and potential harmonization of EPA, ASTM, CSA, and European methods.

EPA recommends that the EPA Administrator should consider using CSA Method in B415.1 for forced-air furnaces, as appropriate.

EPA recommends that the EPA Administrator should consider setting the NSPS at the CSA B415.1 consensus emission level of 0.40 lb/MJ in order to promote harmonization of U.S. and Canadian levels and reduce the potential economic impacts on small manufacturers (although better technology is already in the marketplace for a tighter emission level).

Biomass pellet stoves

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

EPA recommends that the EPA Administrator should consider the wood stove recommendations for biomass pellet stoves also.

EPA recommends that the EPA Administrator should consider setting the NSPS emission limit based on BDT for wood pellets and requiring emission testing of other fuels but not setting an NSPS emission limit for the other fuels.

EPA recommends that the EPA Administrator should consider options to reduce the testing costs for multiple-fuel models.

Masonry Heaters

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

EPA recommends that the EPA Administrator should consider using the ASTM test method expected to be approved this fall, as appropriate.

EPA recommends that the EPA Administrator should consider setting the NSPS at the industry recommended levels, including g/hr over the heating period instead of just the combustion period.

EPA recommends that the EPA Administrator should consider conducting air quality modeling of a typical masonry heater to check that averaging the emissions over the heating period does not harm local efforts to attain/maintain the NAAQS.

The Panel recommends that the EPA Administrator should consider continuing to be open to industry efforts to develop an optional design standard.

Pre-Manufactured Fireplaces (aka low-mass fireplaces)

EPA recommends that the EPA Administrator should consider setting the NSPS emission level at the current voluntary program Phase 2 emission level rather than the tighter Phase 2 level that will be instituted soon.

EPA recommends that the EPA Administrator should consider longer time for initial compliance due to the large number of uncertified models and to reduce potential economic impacts.

SBA and OMB recommend that the EPA Administrator should consider not setting an NSPS for these sources because of potential concerns about a “competitive imbalance” if site-built fireplaces are excluded. EPA does not agree with this recommendation, principally because site-built masonry fireplaces are not a typical competitor to pre-manufactured fireplaces because site-built fireplaces are typically much more expensive.

SBA and OMB recommend that the EPA Administrator should consider if these emissions can be better handled through State and local requirements and informational campaigns (such as “Burn Wise”). EPA does not agree with this recommendation, principally

because many State and local agencies have asked EPA to proceed to develop an NSPS and because EPA considers the informational campaign efforts to be complementary, not competitive. EPA will continue to encourage informational campaigns such as Burn Wise.

Masonry fireplace kits

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options. EPA does not agree with this recommendation, principally because these units compete with pre-manufactured fireplaces and have similar best demonstrated technology.

EPA recommends that the EPA Administrator should consider setting the NSPS emission level at the current voluntary program Phase 2 emission level rather than the tighter Phase 2 level that will be instituted soon.

EPA recommends that the EPA Administrator should consider longer time for initial compliance due to the large number of uncertified models and to reduce potential economic impacts.

SBA and OMB recommend that the EPA Administrator should consider not setting an NSPS for these sources because of potential concerns about a “competitive imbalance” if site-built fireplaces are excluded. As stated above for pre-manufactured fireplaces, EPA disagrees with this recommendation because site-built masonry fireplaces are not a typical competitor because site-built fireplaces are typically much more expensive.

SBA and OMB recommend that the EPA Administrator should consider if these emissions can be better handled through State and local requirements and informational campaigns (such as “Burn Wise”). EPA does not agree with this recommendation, principally because many State and local agencies have asked EPA to proceed to develop an NSPS and because EPA considers the informational campaign efforts to be complementary, not competitive. EPA will continue to encourage informational campaigns such as Burn Wise.

Site-built (custom) masonry fireplaces

The Panel recommends that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

The Panel recommends that the EPA Administrator should consider whether encouraging MCAA Certification of Masons for construction of cleaner fireplaces would be sufficient for site-built fireplaces for now.

Coal stoves

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options. EPA disagree with this recommendation because sufficient information is available to assess the need and positive impacts of reduced emissions. Also, it is premature to pre-judge the potential negative impacts until the economic analyses are completed on refined alternatives.

EPA notes that manufacturers and ASTM are working to develop a revised test method and manufacturers and EPA are conducting emission tests of candidate technologies.

Cook Stoves

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS emission limit for these sources until further information is available to assess the need for and the potential impacts of alternative policy options. EPA is seeking additional information about these sources.

The Panel recommends that the EPA Administrator should continue on-going efforts to work with the manufacturers to better define traditional North American cook stoves so that other devices do not high-jack the term and then EPA should consider exempting those well-defined models as EPA has discussed with the manufacturers.

Native American Traditional Bake Ovens

The Panel recommends that the EPA Administrator should continue on-going efforts to work with Native Americans to define Native American Traditional Bake Ovens so that EPA can exempt those well-defined models as planned.

Camp Stoves

SBA and OMB recommend that the EPA Administrator should consider not developing an NSPS emission limit for these sources until further information is available to assess the need for and the potential impacts of alternative policy options. EPA does not agree with this recommendation because EPA believes there is already sufficient information on the need and positive impacts of an NSPS, pending completion of the economic analyses of refined alternatives. Furthermore, many States have asked for EPA to proceed to develop an NSPS.

The Panel recommends that the EPA Administrator should consider continuing on-going efforts to work with manufacturers to define models that are used for recreational purposes, short-term use, and are portable; and then EPA should consider exempting those well-defined models from potential future emissions control regulation.

Outdoor fireplaces

The Panel recommends that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

Chimineas

The Panel recommends that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

Outdoor Residential Pizza Ovens

The Panel recommends that the EPA Administrator should consider not developing an NSPS for these sources until further information is available to assess the need for and the potential impacts of alternative policy options.

Commercial Pizza Ovens

The Panel recommends that the EPA Administrator should clarify that these models are not part of this effort to develop NSPS for residential wood combustion devices.

**APPENDIX A: LIST OF MATERIALS THE SBAR PANEL SHARED WITH SERS
DURING PANEL OUTREACH [see file: “Panel Report Appendices A&B 11-2-10”]**

**APPENDIX B: WRITTEN COMMENTS THE SBAR PANEL RECEIVED FROM SERS
[see file: “Panel Report Appendices A&B 11-2-10”]**