NSPS, Review / Revision and Impact on our Companies

A Manufacturer's Position Statement

STOVE BUILDER INTERNATIONAL AND UNITED STATES STOVE COMPANY

June 2010

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INTRODUCTION

This Paper is a revelation of the concerns, interests and recommendations expressed by at least two manufacturers of wood stoves, warm air furnaces and pellet-fueled appliances regarding these new and / or (to be) revised industry standards, in whatever form they may eventually take. While we totally agree with the EPA that a re-visitation of pollution / particulate standards for our appliances is long, long overdue, having basically remained unchanged and not reviewed since 1992 (or earlier), our main concerns now are: 1) testing standard(s) and protocol(s) to be adopted; 2) implementation time-frame for intended Phases of the Program; 3) real-world issues and consequences; 4) economic impact on our industry - manufacturers, retailers and consumers; and 5) the considerable likelihood of a logjam at the various, but limited number, of certified and knowledgeable testing laboratories.

As responsible, family-owned concerns with long histories in solid fuel appliance manufacturing we, the principal undersigned, have a strong desire to "make it right" this time around, and to do so with careful consideration for the various implications and ramifications of this truly worthy endeavor. It is both our strong desire and stated intention to work in concert with the EPA, HPBA and others to achieve standards that are essential to properly addressing the economic concerns, energy needs, climate change, and air pollution issues that are now at the forefront of national and state agenda. These are tough issues demanding reasonable compromise between the regulating body and our industry.

BACKGROUND:

Prior to enactment of standards for pollution limits (1988 NSPS), Heating with Wood was totally unregulated in all forms and was surely responsible for a number of serious air-pollution problems in many locales, and rightly-considered a potential health hazard everywhere. Beginning with EPA Phase I (1988) and Phase II (1992), emissions have been dramatically reduced, though problems remain with older appliances still in use and with operator errors and unforeseen or unanticipated use of appliances in the field. During this long interim, many technological advances have been made allowing for even cleaner and, sometimes, more efficient Appliances. New NSPS should complete the regulation of particulate emissions from all biomass appliances in North America – for at least the following 8 – 10 years. The final form(s) for the new standard(s) presents a large-front challenge to our industry, of which we are very concerned "stakeholders". We support an industry-wide effort to move forward, with cautious considerations, to develop a consensus-based approach to addressing this complex and demanding test. However, we remain unenlightened at this writing as to the total scope of the Proposed Revisions and which of our products will ultimately be affected, even though the EPA has stated their goal of ensuring that today's "best demonstrated technology is used in all new residential wood-burning appliances." (1) Ref. Gil Wood, H&H Mag. December 2009. Those of us still struggling to achieve clean burning appliances – even under present mandates – are very troubled by that statement. For example: what if the adopted standard became predicated on some technology, one "best demonstrated," which becomes patent-protected and, thus, unavailable to us and others in the industry? Such an adoption would result in a serious breach of free trade. Other than Attorneys, no one wants such a thing to happen.

Additionally, our own, extensive in-house testing, coupled with our many combined years of testing with independent outside Laboratories has shown, conclusively, a great variability in the results, leading us to believe there remains too much uncertainty and a concomitant lack of ability to reproduce consistent results, due to such variables as minimal changes in moisture content, environmental considerations and ambient weather, or even how fuel moves during testing, including natural shifting of logs, and even under identical testing protocols, to yet be comfortable with establishment of "Best Demonstrated Technology" (BDT) based on the "EPA Certified Wood Stove Database." Thus, we believe it is highly doubtful that a 2.5 gram per hour stove is technologically superior to a 4.5 gram per hour stove. Too fine a set of distinctions cannot be drawn due simply to the combustion processes and the nature of the products and the venting methods. As we have seen, the test method can show us examples of "good" stoves and "bad" stoves, but it cannot further segregate or relegate units into a good, better and best appliance. "BDT" remains a future determinant, yet a highly desirable goal.

INTERESTS, CONCERNS, RECOMMENDATIONS / COMMENTS

1. TESTING

There is much talk about many and sundry, possible or likely testing methods, amongst which are adoption of European standards and imposition of other methods and protocols outside the U.S. "norm."

a) Wood Stoves (Room Heaters)

1. Why not adopt the current Washington State standard – for Room Heaters? We believe that Standard is sufficient for the present (and several years to come) and represents a real and positive – and certifiable – improvement. Until such time as the EPA can prove that a stove tested at a level as low as a 2 or 3 g/h shall constitute a true measure of relative technological superiority, and can therefore lead to a substantial improvement in air quality, by reduced emissions, the "passing grade" should be set to 4.5 g/h, and should remain *in situ* till a more accurate "Wood Stove Database" is verified.

2. Testing with cribs rather than real-world cordwood seems inappropriate, and only adds a lot of expense. We would prefer

having the option of using cribs or a commonly available cordwood (as allowed in B415.1), such as nearly any species of Oak, air dried and properly stored after drying to, say, 20 % moisture. Though Oak is mentioned here only due to its prevalence nationwide, Density and / or Specific Gravity should (possibly) be the actual determinant factors. Oak would be most readily available; other common hardwoods are similar. We mention hardwoods, as our own testing, and that performed at Auburn University 30 years ago, proved to us hardwood was, indeed, superior to softwood. Testing with cordwood would valuably assist in designs and improvements in operation in the “real-world” use, by minimizing user “workarounds” during operation, potentially altering designed performance characteristics.

3. The Minimum burn rate should be increased to 1.15 kg/h. We are quite positive – adamant, perhaps – that this is a most critical testing protocol.

4. The larger the firebox, the more problems arise. Manufacturers should have the choice to have the Minimum Burn Rate expressed as a percentage of that appliance’s high burn rate, with cutoff set at 35%. Whereas setting the minimum burn rate at 1.15 kg/h does resolve a well-recognized flaw in the current EPA-testing method, it does not “cure” the problem inherent with fireboxes of large volume. We believe the use of a “% High Burn Rate” for such larger appliances is not only logical, but an unbiased and practical method of bringing some much-needed flexibility to the standard. This option is already included in the CSAB415.1 and will soon be included in the new ASTM woodstove test method. We would add: North Americans have a profound tendency to think “bigger is better.” Hence, the consumer desire for larger appliances, with larger glass viewing areas, and stoves able to burn longer lengths of cordwood.

5. We would expect these new requirements to go into effect no sooner than January 1, 2013, in order for all manufacturers to have a chance to qualify their products at the 4.5 g/h level within a reasonable time frame, and without putting undue pressure on Staffs, Budgets, Consultants and / or the Certified Labs.

6. Should emissions be set lower than the current Washington State standard, we suggest the following:

   - A minimum 7 year phase-in period should be implemented, starting in 2011. The Washington State limit would be the interim requirement for the years, 2013 through 2017.
   - We would prefer this testing be done with cordwood, it being our opinion that there will be a "cordwood-consensus" with most, if not all manufacturers. Cribs could still be used, but at the manufacturer's option.
   - Again, the Minimum burn rate should be increased to 1.15 kg/h, critical, in our considered opinion.
   - And, as above, manufacturers should have the choice or option to have the Minimum Burn Rate expressed as a percentage of that appliance's high burn rate, with cutoff set at 35%.
   - This new requirement should start no sooner than 2018.
   - Another and possibly significant sub-category of Room Heaters is one previously exempted. As these have never been addressed, properly or otherwise, development of a progressive, but extended standard will require much discussion and, we think, greater latitude.

b) Warm Air Furnaces

Heretofore "Exempt," present a totally different challenge with regard to emissions, due to the relatively larger sizes of fireboxes and other considerations. But vast improvement (emissions reduction) has been shown to be possible, considering our own research and guidelines:

1. The current CSAB415.1 Limit (0.40 g/MJ) should be the standard for testing, reflecting the very early stage of regulation of these appliances which, in many cases use both wood and pelletized fuel. As such, we contend and present these appliances as "Indoor Central Systems."

2. Testing should only be done with cordwood (dried and stored as above), preferably with a species having a density / specific gravity within a range guaranteeing ready availability.

3. The minimum burn rate requirement should be expressed as a percentage of the appliance's Nominal Output, with a cutoff at 35%.

4. The new requirements should begin no sooner than 2018.

5. Looking at Europe as the "BDT" for warm air furnaces is totally inappropriate, as hydronic, not warm air furnaces, dominate that scene and are an entirely different breed apart from the North American market in terms of safety, efficiency and emissions.

   a. Europe does not impose any minimum burn rate requirements.

   b. Europe is not concerned with duct temperatures, as their systems do not have ductwork. But in the case of domestic warm air furnaces, duct temperatures greatly impact product design by limiting the nominal heat output an appliance may reach.

   c. It is our opinion (backed by some research) that Hydronic systems, particularly those of European origin, tend to have a "sweet spot" in operation, due to their innate ability to store accumulated heat in the transmission medium, thus preventing large "spikes" during the operating cycle.

c) Pellet Appliances

Too, offer different challenges with regard to emissions. Our position is thus:

1. For reasons similar to those stated for wood-burning appliances, Pellet-burning appliances should be regulated, initially, at 4.5 g/h. Otherwise, a much longer phase-in period will be necessary – and should be allowed. As with Warm Air Furnaces, some Room Heaters and Coal-only Stoves, Pellet-burning appliances have always been "Exempt." Again, we are venturing into unchartered territory.

2. Though it is a given that Pellet appliances generally burn cleaner than wood-burning appliances, our personal experience has shown our own "BDT" to date has been attainable only with use of exceptionally clean and uniform sawdust pellets. Other, possibly less-desirable pelletized fuels are on the market and are being used. This is understandable considering the frequent shortage of sawdust pellets in the recent past.

3. Should the housing and furniture markets not recover significantly, there may be future shortages of "excellent" sawdust available, allowing for the necessary use of other pellet fuels and "future pellet-fuels."

4. The Pelletized Biomass segment of the market is evolving rapidly. At this critical juncture do we really want to rule out such future fuels as pellets made from switchgrass, paper, algae or pressed-wood chips? We think not. Let us then allow some flexibility in the standard to experiment with a multitude of biomass products.

5. Forcing manufacturers to simply shake their heads over a too-rigid-structure will inevitably lead them to adopt the attitude: "at this level, and at these costs, it is not even worth the try."

d) Coal Only Appliances

Must likewise be addressed in this re-visitation, but allowing for various geographical, economic and social determinants.

1. Bituminous coal is the fuel of choice where locally plentiful and cheap. That is a fact of life in rural Appalachia, particularly the Southern tier of States and the Cumberland Plateau. Bituminous and Anthracite (more popular and available in the Northeast) are very different fuels. Though use of both fuels is a source of pollution, Bituminous presents the greatest confrontation to "clean-burning."
2. And of all the economically-challenged people in North America, other than, perhaps, native populations in Canada and parts of the U.S., Appalachian folks will always heat with whatever is most easily available to them. Should we not, then, at least endeavor to give them appliances which are designed to burn cleaner? Of course we should – we must.
3. A "Cumberland Change Out" of grander-than-Libby proportions should be given consideration by our industry, the Regulatory agencies and the HPBA.
4. There is an urgent need to develop cleaner coal-burning appliances, one which can only be met by manufacturers with both a deep commitment and deep financial pockets to invest R&D dollars on this less-significant segment of heating. Yet, Appalachians need heat. Wish though many of us might, Coal Burning in homes will not disappear anytime soon.

2. LONGER TRANSITIONAL PERIODS

Why do we insist on longer transitional periods? Our rationale, well thought-out, discussed, researched and carefully considered follows:

1. Should the EPA set the bar any lower than the Washington State limit for Non-Catalytic stoves, manufacturers will have to be given a significantly longer period of time to adapt their technology.

2. We estimate 14 – 18 months of development time for each new firebox, time spent performing intensive and extensive R&D efforts. Our estimate has been supported by 29 year industry veteran in R&D, Richard Blackburn, (H&H December, 2009), when asked: "What is a good estimate of the time for taking a new wood stove from conception, through NSPS and safety testing procedures, and finally readied for production?" And his reply: "For non-catalytic heaters it is 12 to 14 months. For catalytic heaters it is 10 to 12 months. It needs to be emphasized that 'time is money' and that anything that causes delays, such as regulatory bottlenecks, in getting a new heater to market is costly to the industry." This will be the case for most manufacturers. Tom Pugh summed up this situation very well when asked by H&H Magazine in the March 2010 issue: "Don't you think there are already a number of manufacturers that have their products sufficiently refined so they are very clean burning and efficient, and that they would not have to spend much on R&D? His reply: "Not necessarily. It depends on how the final NSPS standard reads. The best manufacturers may have one unit, perhaps two, that will meet the standard. Are they going to have others? It looks to me like the catalytic people will do better than the others. There is still a lot of R&D work that has to be done, which means that 80% of the industry has to figure out how to do it. I think there will be a lot of products that look the same."

3. A minimum of at least 4 new fireboxes will be required to bring a complete line to market – for most small to medium-sized manufacturers.

4. It will take from 5 to 6 years of intensive engineering and R&D efforts – just to have those 4 boxes ready-for-manufacture. Certainly, knowledge of the process obtained during each firebox development will shorten (somewhat) the time necessary, but not enough to consider within a guiding framework.

5. The financial constraints faced by all manufacturers will pose major impediments for most. Many manufacturers may do as others did in the late '80's, simply leave the industry. As John Gulland, "The Woodpile", February, 2010 aptly stated, "By some estimates, the first round NSPS put three-quarters of the existing stove manufacturers out of business." That huge a percentage would surely not again happen, but loss of only 10% to 20% of current manufacturers would severely damage this industry.

6. Many manufacturers, ourselves included, have multiple categories that are facing regulation, which will greatly exacerbate problems on all fronts including how we address the market in the interim, financial wherewithal, adequate personnel and last, but certainly not least, our own profitability. Without reasonable expectations of an acceptable Return on Investment (ROI), we literally face extinction. And should a Manufacturer decide to "exit stage right," will he be able to get an acceptable price for his business? We doubt that very much. In this sense, the NSPS (if out of compliance) would likely be listed on the Balance Sheet under "Liabilities."

7. The sheer preponderance of categories under new NSPS scrutiny has manufacturers disturbed, at the very least. We are confronted with changes to every appliance we now manufacture, not to mention others we have under

consideration – either as "prime," or distributing, importing or acquiring.

EPA lists "devices that potentially would be covered by these actions," (Small Business Panel on Revising Standards for new Residential Wood Heaters & Other Devices, Fact Sheet) all of which we presently manufacture, market or distribute:

- Wood stoves
- Pellet stoves
- Other biomass stoves (e.g., stoves that burn shelled corn, switchgrass, cherry pits)
- Forced air furnaces
- Coal only heaters

Additionally desired to be covered – and items we consider manufacturing from time to time (we are currently investigating two categories) in our continuing efforts to expand and create additional employment. Those are within the remainder:

- Masonry heaters
- Masonry fireplaces constructed on site
- Factory-built fireplaces
- Outdoor stoves and fireplaces
- Indoor and outdoor hydronic furnaces or heaters

"At this time the review is closely examining options to include all residential wood-burning appliances.'' Gil Wood, H&H Interview, December, 2009.

Our interpretation, then, is that ALL wood, biomass and coal burning heating / cooking appliances are most likely to be covered, or are desired to "be covered," making our compliance unduly burdensome – without proper consideration for reality, our marketplace and other externally-imposed constraints.

8. Too short a transitional period will greatly hamper innovation and competition, both of which should be welcomed and encouraged, not hindered; that is how new technologies emerge, as proven in our industry by the many advances made since the mid-70's.

   Otherwise, the scene could be easily set whereby a small handful of very large, powerful and financially-secure manufacturers will completely dominate the market. All that is necessary is one breakthrough technology and successfully-patenting of same device.

   We should not drive other manufacturers away, especially the smaller ones but, rather, encourage them all to invest in R&D and stay in the industry. Some of the greatest advances have come from small, but dedicated entrepreneurs. Anyone remember Bob Fisher and his stoves?

9. Following are Appendices A and B, which state the typical financial realities of an "Average Hearth Manufacturer," and offer an exhibit of a typical NSPS R&D Budget for same Average Hearth Manufacturer – both a telling and compelling story. And inasmuch as our industry has limited sources of independent data, we turned to the HPBA for consultation. HPBA Members are assessed dues based on specific annual sales ranges. From Hearth-only Members, slightly more than 50% reported in the $1 million to $5 million range. We have therefore conservatively proposed $5 million as the representative sales figure for the "average" hearth manufacturer. Appendix A shows that the average "healthy" hearth manufacturer can generate a positive cash flow of $188,250 per year – after taking into consideration minimum debt repayments and normal capital expenditures. Conservatively "assuming" that 100% of this "discretionary"

cash is invested in R&D in a dedicated effort to significantly lower the emissions levels of four new fireboxes to less than 4.5 g/h, and further assuming that R&D expenses will top $1,360,000 (see Appendix B), the "average hearth manufacturer" will require a phase-in time of 7.2 years – just to have enough cash to survive the NSPS review for one appliance category.

10. Not only do we anticipate a "logjam" of a bottleneck at the accredited testing laboratories, we see a "Tsunami."

    i. There are a limited number of labs that perform EPA emissions testing.
    ii. Should their number even double or triple, it will take time for them to "get up to speed" and to achieve requisite accreditation.
    iii. If (rather, highly likely) there is this huge wave of certification requests within, say, a two year period, timely testing will prove quite impossible, meaning we will all lose. "All" would include each step in the process: Labs, Manufacturer and his Agent, Distributors, Dealers and, ultimately, the Consumer - and in the end, the Taxpayer.

Our own conservative estimate of new certification requests is in excess of 500, all occurring within a three year period. Add to that the Lab time to perform Safety Testing, as all these "new fireboxes" must be certified. Even due attention to new or revised Owner's Manuals will require additional lab time. Can all possible labs accommodate this number – and still offer quality services? We are dubious.

And what about succession plans for some of the smaller labs? Can the EPA guarantee that it will accredit an appropriate number of certification facilities to accommodate the extraordinary demand? Does the EPA, itself, have the resources available to handle Certification and Accreditation of Laboratories? We remain clueless.

The Department of Energy (DOE) has just published new guidelines relating to an even larger category of heating: new efficiency standards for gas-fired heating appliances. Those guidelines will prompt another surge of manufacturers requesting testing times for the available Labs. Tsunami, indeed, but we are not an island in the Pacific, we are "inland" and see this one coming; there is time to act – not react. Is there a term more appropriate or greater than "Tsunami?"

11. There is presently a longstanding precedent for a Federal Regulator establishing a realistic and manageable timeline for new compliance, specifically regarding the ample time allowed to re-tool, an expensive item of consideration. A change in SEER (Seasonal Energy Efficiency Ratios) for Air Conditioning equipment and AFUE (Annual Fuel Utilization Efficiency) standards for warm air furnaces required by the NAECA (National Appliance Energy Conservation Act) allowed time for requisite tooling changes as shown in the below Table:

	Initial NAECA Legislation	Last Standard Issued	Effective Date
Central A/C	1987	2001	2006
Furnaces	1987	2007	2015
Boilers	1987	2007	2015

The changes proposed for the Wood Heating Industry are as technically-challenging as those required by the above mandates, perhaps more so as those are dominated by huge manufacturers with much greater engineering resources and capital.

12. Financing the R&D costs will be a considerable trial, particularly during a "short-window" transition or phase-in period. Without sufficient revenue being generated in the interim – through allowed-sales of currently acceptable appliances – it will be impossible to create the financial wherewithal to either "Research" or "Develop." The entire industry, some more than others, will be so weakened as to preclude new and innovative products from hitting the market in a timely fashion.

13. We see a return of what occurred in 1987-1989, when many of us (ourselves included) turned to Catalytic Combustors as our new "Magic Bullet." Speaking only for ourselves, that was a disaster. "Cats" proved problematic in the field, as consumers voiced a raft of complaints, some legitimate, but most not. It was our own sad experience that our particular customers simply removed their old appliance and "plugged-in" the new "Cat" model, with little consideration for necessary draft, without which, our "Cats" became our bane. We ceased manufacturing "Cat" appliances in 1990. We simply must avoid falling into the trap of designing stoves to a standard, rather than trying to meet the needs (including that of burning clean) sought by real world users. Again, quoting John Gulland: "One of the main reasons the NSPS is being revisited (in addition to it being way overdue) is that some air quality regulators think that the allowable emissions are too high and should be reduced to give manufacturers incentive to do research aimed at making stoves cleaner. The idea probably has some merit, if for no other reason than to maintain the credibility of the standard, but driving down the limit too far could have unintended consequences that I'll wager few of those regulators are aware of." Along with this

ever-increasing testing-demand, we foresee a corresponding increase in costs of testing. The old “supply and demand” rule will surely come into play, at least in the short-term, till more Laboratories are certified and that playing field becomes level.

14. Biomass is a proven renewable energy resource, whether from the forest, industrial waste (cellulosic fibers), agricultural (both prime and waste, e.g., sugar cane) and future such fuels, and has been shown to be a reasonable alternative to so-called prime fossil-based heating fuels, which contribute to climate change. Biomass, as such, is usually carbon-neutral. It is our opinion that the standard should be flexible enough to allow R&D with all types of biomass in order to foster innovation and establish “BDT,” which is likely to be much different depending on the fuel burned in the appliance. We continue to stress “innovation” which, with overly rigorous, too-ambitious regulations, becomes stultified and repressed, whereas with a well-conceived regulation and appropriately-timed implementation innovation will remain a natural and free-flowing by-product.

3. KEEPING A STRONG INDUSTRY ASSOCIATION

The HPBA has played a key and pioneering role in the wide area of standards development and education. Our Association’s strength is a direct result of its strong membership base, estimated at nearly 70% of hearth manufacturers, along with the critically successful annual trade show. Should our membership suffer a retrenchment as a result of unintentionally imposing standards demanding unreasonably low emissions, or untimely phasing-in of proposed regulations, then the HPBA would be substantially weakened to the point where its viability and even survival could be threatened. Should the HPBA ultimately disappear, then the EPA would lose a strong ally in the positive development of an increasingly innovative industry. That may paint a bleak picture, but it is a scenario we have seen in years past, when the WHA was substantially reduced in numbers by both the "80's shakeout" and the reduced membership dating from the last episode of angst-over-regulations. Those who were around 22 years ago will surely recall that up to three fourths of the stove manufacturers vanished from the scene during and immediately following the initial NSPS. Yes, the strong, viable and committed survived both events and even became stronger. But the loss of our smaller and less well-heeled fellow members created a void, in both the spirit of entrepreneurship and innovative force. We are reminded how some of those "little guys" were the market-drivers "back then." It took over 10 years, and the inclusion of "Patio and Barbecue" to restore and reinvigorate the HPBA membership base. The HPBA at this juncture is stronger than ever, but with many members weakened financially by the persistent effects of the Recession. NSPS should not further aggravate those of us not strong enough to survive another and perhaps more serious challenge to our already-stressed resources and tenuous financial positions. "You picked a fine time to 'change us,' Uncle Sam."

4. STRONG SUPPORT OF A RETAIL SEGMENT

Having a network of competent retailers is key to maintenance of a healthy and progressive industry and the vital link and vehicle needed to offer the consumer appliances with new technology to replace the old, non-certified units yet in the field. In the event half or more of the current manufacturers exit the industry due to an over-aggressively-pursued new set of regulations so, too, will the dealers who had access to those product lines. Not only will jobs be lost, but the pace at which old stoves are replaced will be greatly slowed, perhaps tremendously, as a result of the weaker competitive landscape. The North American Hearth Retailer is, arguably, the single-most important link in the chain from Manufacturer to Consumer. His or her acquired knowledge is paramount to the safe and successful operation of any solid fuel appliance.

How do retailers see the NSPS review? Here is what a small, but representative, sample had to say:

“The technology now available, if used properly, burns extremely clean – no smoke can be seen whether it is a 2 or 6 grams per hour stove. The difference in a clean burning unit for the average home isn't the unit only. In fact, I would challenge anyone, after working on thousands of stoves through the years, that the biggest obstacle to clean burning lies in two factors: a) the wood being used (moisture content, how it is split, and how it is placed in the stove for proper fuel-to-air mixture) and b) the chimney system design and how the connector pipes are hooked-up from the stove to the chimney. Poor systems are installed by homeowners and installers not knowledgeable in the physics of getting proper draft so the stoves can work properly. We see good stoves burning badly because of poor installations – daily. Much of our work is improving the systems for people so the good stoves they have burn properly.

The magic potion is not reducing emissions by a few grams per hour in a lab, although everyone agrees cleaner is better. Let's give manufacturers time to improve their equipment to reasonable levels so costs are controlled in the market place, manufacturers can stay in business, and homeowners can afford to deal with knowledgeable hearth professionals to maximize these fine pieces of equipment. People depend on their wood burning and pellet stoves to heat their homes. The economic reality is that many of our customers and many people around the U.S. depend on their solid-fuel appliance to save money so they can also afford to put food on the table.”

Roy Meldje – Top Hat Chimney Specialists, Madison, Wisconsin.

“Sales of solid fueled appliances are only twofold. The driving factors are clean, functional, and affordable heaters that are easy to install, and the other is solid fueled appliances that are attractive and chosen for functional room decor. On the East Coast, no customer has ever entered our showrooms in Massachusetts and New Hampshire and only demanded a stove or fireplace that burns clean. Does it heat? How long does it burn? Is it safe? Does it look good? Those were all determining factors.

There will certainly be a new round of manufacturer and dealer closings as there were in the 80's if a new round of regulation is introduced. But there will be no life changing upheavals if a stove emits 3.0 grams/h or 5.0 grams/h. I can even imagine a black market developing for the 10 or 15 year old stoves if the cost for developing a new ''SUPER STOVE'' adds too much to the retail price and EPA compliant stoves of today starts to dry up. EPA should be working to educate the consumer on these products, not making unreasonable demands on an industry that needs a helping hand, not a kick in the pants!"

Jon Bergeron – Hearthworks, Hookset, New Hampshire.

"Having been a retailer with two store locations and a survivor of the last round of government intrusion into the clean-up of burning technologies, I have a great deal of trepidation as to the survival of many small retail businesses out there if there is much further manufacturers consolidation due the unintended consequences of fast, harsh, and arbitrary decisions from government. I fear the small local tin bender and welder as well as the big box importers that will create a "shadow" market of unqualified, dirty burning cheap knock-offs and boxes made/imported for exempt categories or unscrupulous vendors. A sensible, full, and slow implementation will be a far better method of insuring the success we all want, strong sales along the complete chain from manufacturing to the consumer of clean, efficient units."

John Fillmore – Weather Shack, Mesa, Arizona.

5. REP / AGENT STATEMENTS

Hearth "Reps" are highly respected and professional individuals, many with long careers in the industry. We feel their voice should also be heard – as highly concerned "shareholders" – and have selected three such persons whose combined 75 plus years of hearth industry experience adds enhancement to the appeal for caution and sensibility.

"The request to reduce the emissions from the current 7.5g/h to a level as low as 2.5 g/h seems to be a much greater request made by the EPA than what has been made by them with regards to other industry standards. EPA seems to be contemplating a very short transition period. A more reasonable timeline for the industry as well as the states to implement the new standards is essential."

Jay Beaton – Timberline Marketing, Bloomington, Minnesota.

"As an independent Manufacturers Representative specializing in Wood, Pellet and Gas heating appliance (14 yrs), I am most concerned with what I see as a "Perfect Storm" facing our industry. As we struggle to survive the lingering recession, an unrealistic NSPS review / revision compliance period to yet to be determined emissions / efficiency levels and the recent D.O.E. ruling regarding gas hearth appliance efficiencies would in my opinion, quite simply and quickly collapse our Industry. Without doubt we all want to market more reliable, cleaner burning, and highly efficient heating appliances. Our industry is up to the challenges given reasonable requirements and time periods.

During the course of my marketing carrier (30+ yrs.), I have personally experienced the demise on a number of domestic consumer product industries (Footwear and Apparel). These industries were lost to cheap foreign labor and the lack of meaningful US government tariffs and quotas. It would be shameful to lose yet another US Consumer Products Industry. It would be inexcusable to have "Hearth" legislated / regulated out of existence. In addition to the excellent products and services our industry provides, we offer real-life solutions to home heating issues as well as important alternative heating sources. The Hearth Industry is a key component to the very fabric of the American Way."

Richard L. Herman – Independence Marketing, Pickett, Wisconsin

"As one who has represented 40 hearth product companies over the past 31 years, and 8 companies at present, I have many concerns over this new NSPS. I personally witnessed the loss of a lot of good "hearth people" during the period from 1988-1990, and would really hate to see a repeat this time around. I lost manufacturers, dealers and distributors. Worse, I saw the beginning of a continuing trend of more and more consumers shopping the "Big Box" stores after seeing stove prices rise so rapidly at the Specialty Hearth Shops, leaving many of the latter closing their doors. This industry cannot afford the loss of its professional dealers and installers, leaving the consumer to "do-it-himself," especially if he is now "doing it" with cheap imported stoves purchased from those Big Boxes, who seem to care less once the stove is paid for and out the door.

I respectfully suggest / request the following: select reasonable standards; set a comfortable implementation time for <u>several</u> phases to allow for compliance and extend at least two years grace for dealers and distributors to sell off non-compliant stock. Without due restraint I see occurring what happened last time, especially with my economically-stressed consumer base, simply doing "whatever it took" to stay warm, regardless the consequences. Just do it right this time, but please do not be punitive because you missed the boat to review this 10 or more years ago. We can't take a "double whammy" type of new standard.

Steve Wilbar – Results Unlimited, Louisville, KY.

6. OTHER CORRELATED FACTORS REQUIRE COMMENT

Fuel, start-up procedures, appliance durability, consumer-operation realities, cost at Retail and other correlated factors require comment. Our own testing has shown we are beginning to "push the envelope" of practicability so far as development of cleaner-burning appliances is concerned.

1. Though we are confident we can comply with both Washington State and CSAB415.1 with our currently-certified room heaters and one-third of our warm air furnace models, we are somewhat numbed if not nearing apoplexy at the confrontation we face with our "Exempt" Appliances, be they Pellet / Multi-fuel or cordwood (not to even mention our coal-burners).

   Already we have exhausted (read, near-wasted) valuable engineering time and dollars in our continuing "feints" on this battleground. Worse, we have no way of predicting how long before we will have all our cordwood heaters capable of meeting even the current Washington State regulations.

   Pellet and Multi-fuel should (key-clutch-critical word there) prove less problematic, but only so long as "the bar" is set at manageable levels, possibly with reliance on the current Washington State standard.

2. Where our "Coal-Only" appliances are under scrutiny, we admit we are approaching a level of anxiety where "medication" may be necessary. Till such time as a sensible standard (maybe one for Bituminous and a separate one for Anthracite) is developed, we are forced to sit on our hands and do nothing. After promulgation of said standard, we will re-evaluate our posture as a coal-burning appliance manufacturer. What we see now is a very grim picture: with

development costs mounting, and with a suitable standard not in sight, and many years to achieve a satisfactory ROI, is it worth our time and money? Well, the only reason we wish to continue is two-fold: we have a century-old market for our Coal-Burning products and, if it can be done, we want to be the first to succeed; and somewhat altruistically, we know from long experience the folks dedicated to burning coal are the neediest in this Hemisphere.

3. "The Human Factor" conundrum has been identified by our friend and colleague, John Gulland, who states in "The Woodpile", February 16, 2010, "As the NSPS process proceeds over the next several months, we will have more to say about how the process is evolving and what issues are dominating the discussion. In particular, we will revisit the human factor in wood heating and challenge the idea that an exclusive focus on emissions testing and test results is the best way to reduce emissions."

EXECUTIVE SUMMARY

We sincerely trust we have made some significant impact and contribution to this effort through our statements of position on the varied concerns and topics. And as intimated, and herein promised, we are highly desirous of the opportunity to contribute to this very worthwhile, if not noble challenge before us all. None of us wants to breathe dirty air. Though we may disagree with some of the relevant statements we have heard or read we remain committed to making our appliances cleaner-burning. Appreciate if you will that ours is a daunting task and one fraught through with grave concerns over affordability and the timing of promulgation and implementation. There is much "wringing of hands" throughout the heating industry, same as occurred last time around. Soon, we may resort to "rent garments" and "tearing of hair." Dramatic? Yes, but not terribly, or overly-so.

Our conclusion is that the hearth industry must be given sufficient grace to lower our emissions "slowly but surely" and, thus, be allowed to remain a source of diversification of energy resources. We believe our industry can play a key balancing role in reducing our Hemisphere's dependence on fossil fuels. Though oil is, perhaps temporarily, at a relatively low cost, it takes little imagination to envision the probable cost-impact of the recent offshore oil rig disaster; tighter (read more expensive) offshore drilling regulations are sure to follow.

Adoption of reasonable standards, most of which already exist (Washington State, for example and CSAB415.1 for another) and a liberal application of judicious phase-in schedules will enable our industry to further "clean up our act," without necessarily abandoning the business. That said, we can then envision a dramatically more pleasant scene facing us all at the next possible re-visitation some 8 to 10 years hence. By that time our technology will have been developed in a manner consistent with the ability to have both cleaner burning and more efficient appliances – not always the case today. Do we gain anything if we emit only 2.5 g/h with a stove that is 60% efficient, as opposed to a stove emitting 4.5 g/h with a 75% efficiency? In a word, "no." It can be further seen that future appliances we make will be safer, and much more easily understood by the consumer – and perhaps less likely to be modified in the field. The EPA may well unintentionally create more problems as consumers dodge the more expensive and "cleaner" stoves by making their own, as was the case in the 70's and early 80's. Does anyone remember that unemployed welder concerned with heating his home for the coming Oregon Winter – and made his own plate steel stove – Bob Fisher? I sure do. He started a brand new category of wood heaters, still the most prolific in the gamut. But were they dirty? You "betchum," Red Ryder! But our industry, in concert with the EPA, cleaned up those filthy rascals, nearly to the point where "acceptable." Now, we want to finish the job.

Our position can be more succinctly stated as our concern over three basic issues before us:

- Just where do we "set the bar" on appliances that are currently certified? We see little significant, real-world environmental impact between 2.5 g/h and 4.5 g/h. At these levels the crux of this issue is how people use their unit that makes the difference. And if we rather abruptly "take the bar" to 2.5 g/h it will be only a step toward cleaner air, but may well reduce the number of manufacturers by 50% to 70% viable, or in business at all. Will we not, then, be selling the consumer expensive, but finicky, "over-engineered" units that work just fine in the lab, but prove otherwise in the field? Our thought is that the many millions of dollars to be spent for compliance by manufacturers could be better invested in education of the consumer and in stove "changeouts." Regarding cordwood, adopting 4.5 g/h will finally allow the EPA to build truly useful and meaningful data with a fuel that represents real-world conditions.
- Now, how do we close the huge loophole on currently "exempt" appliances? Regulation, of course, is the answer. But it must be fair, especially considering that the EPA does not fully realize or understand that most of these appliances have never been regulated to a significant degree. So, we say "the bar" for such appliances should (must) reflect the early stage of regulation. For

us, our warm air furnaces offer a prime example of "misunderstanding." Though our own testing has shown we can, in a relatively short period of time, and with applicability to several of our models, achieve the Canadian CSAB415.1 level of 0.40 g/MJ. Yet, the EPA is touting 0.137 g/MJ – or 0.16 g/MJ – for the simple reason some European boilers have that capability. Such thinking defies logic; North American warm air furnaces utilize ductwork and not hot water or some other fluid medium to heat the home.

- And finally, how do we adequately phase-in the new regulation? We must take into consideration many factors, including the capacity of average-size hearth manufacturers to finance their R&D efforts for multiple product categories. Seven years sounds like a long time, but is likely a bare minimum if we don't want to make compliance unduly burdensome. Proper consideration must be given for reality, our marketplace, and other externally-imposed constraints.

APPENDIX A

FINANCIAL STATEMENTS FOR AN AVERAGE HEARTH MANUFACTURER AND REQUIRED PHASE-IN BASED ON AVAILABLE FINANCIAL RESOURCES

FINANCIAL STATEMENTS	
Net sales	$5,000,000
Gross profit	$1,600,000
Percent of sales	*32%*
Selling, general and administrative expenses	$1,000,000
Percent of sales	*20%*
Earnings before interest, taxes, depreciation and amortization	$600,000
Interest expense	$70,000
Depreciation and amortization	$125,000
Earnings before income taxes	$405,000
Percent of sales	8.1%
Income taxes	$141,750
Net earnings	$263,250
Percent of sales	5.3%

PHASE IN BASED ON AVAILABLE RESSOURCES	
Net earnings	$263,250
Add:	
Depreciation and amortization	$125,000
Deduct:	
Normal capital expenditures	$100,000
Minimum long term debt repayments	$100,000
Net cash available	**$188,250**
Total NSPS-related R&D costs as per Appendix B	$1,360,000
Number of years (phase in) needed to absorb NSPS-related R&D costs	**7.22**

APPENDIX B

NSPS R&D BUDGET FOR AN AVERAGE HEARTH MANUFACTURER

Salaries	$850,000	(note 1)
Laboratory equipment	$50,000	(note 2)
Prototypes	$25,000	(note 3)
Test fuel	$30,000	(note 4)
Testing services	$100,000	(note 5)
Outside consultants	$160,000	(note 6)
Re-tooling	$120,000	(note 7)
Marketing expenses	$25,000	(note 8)
	$1,360,000	

Note 1

It is assumed that a manufacturer will need at least 4 fireboxes in order to have the proper offering to remain competitive in the market place. Each firebox will take at least 14 to 18 months to design and certify (with an average of 16 months per firebox). Using 2-full time experimented employees to bring the products to market, salaries and benefits are estimated at $160,000 per year for at least 5.3 years, amounting to approximately $850,000). The various tasks performed include design, prototyping, testing, production-line integration, and marketing.

Note 2

In order to accelerate R&D and avoid validating each result with independent testing labs (which would be out of reach for most manufacturers), new testing equipment will need to be purchased. This testing equipment is necessary in order to sample flue gases, measure test load weight loss, record data automatically, and analyse flue gases composition. The need for outside consultants will still be required (see note 6). However, the acquisition of new equipment will help contain the costs associated with outside help.

Note 3

Numerous prototypes will be needed until the final product can be approved. For each firebox, we estimate that 8 prototypes will be needed, at a cost of $700 each. Numerous samples of various components will also have to be purchased from vendors. In total, we estimate the cost of prototyping at approximately $25,000.

Note 4

Each test costs at least $50 in fuel (assuming cribs are used), including waste. We estimate that for each firebox, 150 tests will have to be conducted, for a total of $7,500. For 4 fireboxes, fuel cost will therefore amount to approximately $30,000.

Note 5

We estimate testing services for emissions, efficiency, and safety to last approximately 3 weeks for each firebox. At an average of $1,500 per day plus travel expenses, this amounts to approximately $25,000. We therefore estimate the cost at $100,000 for all 4 fireboxes.

Note 6

The average manufacturer will need outside help for design and testing. Testing equipment, knowledge of the test standard, and general guidance is normally offered by outside consultants (they are not necessarily certified EPA test labs). It is expected that the average manufacturer will need approximately 300 hours of consulting services per year (or $40,000), for a total of $160,000 over 4 years.

Note 7

For each firebox, new molds and jigs will need to be purchased or produced. They are expensive. We estimate that re-tooling charges will reach at least $30,000 per firebox, for a total of $120,000.

Note 8

Marketing expenses are expected to reach $25,000. New pictures will need to be taken and all the current marketing material, including web sites and owner's manuals, will have to be updated.