



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

**Attention Docket ID Number EPA-HQ-OAR-2009-0734**

U.S. Environmental Protection Agency  
Mailcode: 2822T  
1200 Pennsylvania Ave. NW.  
Washington, DC 20004

Re: Comments on the U.S. Environmental Protection Agency's proposed Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters. 40 CFR Part 60

Dear EPA,

As the owner Alpha American Company, a manufacturer and distributor of affected wood burning forced-air furnace products, I am submitting comments on the EPA's proposed Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters, published at 79 Fed. Reg. 6329 (February 3, 2014). Feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Terri Olsen". The signature is fluid and cursive.

Terri Olsen  
President

**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**Docket ID Number EPA-HQ-OAR-2009-0734**  
**40 CFR Part 60**  
**[FRL-9904-05-OAR]**  
**RIN 2060-AP93**

**COMMENTS OF TERRI OLSEN ON BEHALF OF ALPHA AMERICAN COMPANY**

**Standards of Performance for New  
Residential Wood Heaters, New  
Residential Hydronic Heaters and  
Forced-Air Furnaces, and New  
Residential Masonry Heaters**

I appreciate the opportunity to comment on behalf of Alpha American Company (“We”) on the Environmental Protection Agency (EPA) proposed Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters, published at 79 Fed. Reg. 6329 (Feb. 3, 2014) (“the Proposed Rule”)

**Background**

We are a manufacturer of both multi-fuel (oil/wood/coal, gas/wood/coal and electric/wood/coal) and wood/coal add-on forced-air furnaces. We are a small family owned company, located in Northern Minnesota that was founded in 1970. Our multi-fuel model line of furnaces were designed and engineered in response to the skyrocketing oil prices caused by the oil crises in 1973. The destabilization of the oil pricing system brought back wood as a popular choice for alternative energy. In 1976 we developed furnaces that were able to burn Natural/LP Gas or Oil in the same furnace that also burns wood with the gas or oil burner being able to ignite the wood. The furnaces were designed to burn wood on a grate that allows for proper combustion to produce a clean burn. Performance, Safety and Efficiency were major considerations for this new product and by 1977 we introduced the first UL Listed oil/wood/coal multi-fuel furnace to the Market – shortly after, we added the UL Listed gas/wood/coal and electric/wood/coal furnaces for sale in the United States.

In 2010 we submitted a sample unit of our supplementary add-on wood/coal furnace to UL for evaluation and testing for both the U.S. and Canadian Markets, which was investigated and determined in compliance to both UL 391 Standard and CSA B3663-1-M1.

We have manufactured these product lines for nearly 40 years and have remained in business in response to consumers needing and desiring alternative and more cost effective options for heating their homes. The permanent UL Label attached to our product lines is testament to our continued commitment to provide consumers with safe, efficient and high quality furnaces that comply with all Safety and Building Code Standards that affect these product types. Currently our product lines include 6 (six) furnaces in our Multi-fuel model line and 2 (two) sizes in our Add-On wood/coal furnace line. We sell Factory Direct throughout the United States (except Washington) and export to Canada.

In the face of a weakened economies and rising heating costs, more Americans turn to less costly heat sources to heat their homes, especially in the rural areas. Affordable options must be made available, and in this proposal it threatens not only the existence of some of these products but also the companies that produce them, especially given the strict emission limits and the time frame that we have to work with these.

Our comments will be subjective to only Subpart QQQQ compliance to Step 1 referencing forced-air furnaces unless otherwise noted.

### EPA's Proposal for Regulating Forced-Air Furnaces

EPA is proposing to regulate forced-air furnaces, also referred to as central heaters, as proposed in the new Subpart QQQQ. The proposed test method for affected appliances is referenced to the CSA B415.1-10 Standard for compliance to the Step 1 of the proposed rule (0.93 lb/MMBtu heat output). The proposed Step 1 Standard will affect all forced-air furnaces on the effective date of the final rule<sup>1</sup>, EPA has requested comment on a one-year extension of this deadline.<sup>2</sup> Five years later, affected heaters would be required to meet the proposed Step 2 standard (0.06 lb/MMBtu heat output). CSA B415.1-10 is specified as the test method to be used to determine compliance for certification at all steps for forced-air furnaces.

This proposal does not include any requirements for heaters solely fired by gas, oil or coal, nor does this proposal affect existing heaters.<sup>3</sup>

EPA has asked for specific comments on an alternative three-step approach (Alternative Approach) for residential hydronic heaters and forced air heaters. Under this Alternative Approach, as in the Proposed Approach, the Alternative Step 1 emission limits for residential hydronic heaters and forced air heaters would apply upon the effective date of the final rule. The Proposed Step 1 emission limits and the Alternative Approach Step 1 emission limits are identical. The Alternative Step 2 emission limit for residential hydronic heaters and forced air heaters would apply 3 years after the effective date of the final rule. The Alternative Step 3 emission limit for residential hydronic heaters and forced air heaters would apply 8 years after the effective date of the final rule.<sup>4</sup>

### Comments

#### I. EPA Does Not Demonstrate Adequate Findings That the Proposed Step 1 Limit of 0.93 (lb/MMBtu) is BSER for Large Forced-Air Furnaces

There are only a few forced-air furnaces that have been demonstrated to achieve the proposed limit under the CSA B415.1-10, however, these are smaller forced-air furnaces (e.g. <65,000 Btu/hr) that are manufactured in Canada and not in the United States. We cannot affirm EPA's determination that "limited or no R&D is needed to comply with the proposed Step 1 BSER standard[]." <sup>5</sup> In our research we have not found one single large forced-air furnace (e.g. >100,000 Btu/hr), in either Canada or the United States, that has been tested or listed to the CSA B415.1-10 standard to the 0.93 limit.<sup>6</sup>

<sup>1</sup> See 79 Fed. Reg. at 6,343

<sup>2</sup> See 79 Fed. Reg. at 6,363

<sup>3</sup> See 79 Fed. Reg. at 6,368

<sup>4</sup> See 79 Fed. Reg. at 6,343

<sup>5</sup> See 79 Fed. Reg. at 6,364

<sup>6</sup> Online searches conducted throughout the past 5 to 6 years have concluded this to be a true statement. Using online search engines and e-commerce store searches for product availability that would represent large forced-air furnaces that demonstrate the 0.93 limit.

There are approximately 10 to 15 U.S. manufacturers of wood burning forced-air furnaces, which is a very small percentage of the 250-300 manufacturers that sell wood stoves, hydronic heaters, fireplaces, and other category types of wood heaters.<sup>7</sup> We would need substantially more lead time for R&D and certification to the emission standard than the EPA's proposed compliance date, which is the effective date of the final rule. This gives us approximately 1 year between the date of this proposal and the date of the final rule to come into compliance. In the proposal it states that "This 1-year period is in addition to the time that manufacturers have had leading up to this proposed rule."<sup>8</sup> This is not fair or founded, since there was no "advanced" notice as to what would be included in this proposal until it was published in the Federal Registry on February 3, 2014 or a basis formed as to what would be encompassed within the proposed draft of the rule. Subsequently we have taken the opportunity to review the EPA's proposal to make our own assessments of the cost burden to our company and the conflicting areas of concern to the UL compliancy that we must also meet.

II. EPA Does Not Take into Account the Duplicated Cost Impact on Companies That Offer Products That Have Been Safety Tested and are Listed by Underwriter's Laboratories or Other Safety Testing Laboratories.

Given that there are no large forced-air furnaces that have been tested or certified to 0.93 (lb/MMBtu), we will justly assume that modifications will be necessary in order to achieve the proposed limit in Step 1.

As is mentioned in the foregoing Background section in this comment, our forced-air furnaces are Listed by Underwriter's Laboratories. The EPA certification process will differ for our product lines from other manufacturers that are stakeholders in the proposal, in that, any changes to construction or modification to components or features will require additional review by UL.<sup>9</sup> To date our furnaces have not been submitted for evaluation to the CSA B415.1-10 standard, primarily due to the substantial cost for review<sup>10</sup> and the lack of solidity to the proposed test method prior to the publishing of EPA draft proposal on February 3, 2014.

The due process outline for EPA Certification that we anticipate for our forced-air furnaces to this proposed rule is that we:

- a) Contract with a laboratory that is approved by EPA and a certifying entity.
- b) Submit sample models for evaluation (an estimated minimum cost of \$25,000 per model line – an estimated total cost for 8 furnaces would be approximately \$200,000).
- c) Ship furnace back to our factory for R&D - assuming modifications are required to comply with the proposed Step 1 emissions rule.
- d) Resubmit modified sample to the lab that is contracted for emissions testing.

<sup>7</sup> See 79 Fed. Reg. at 6,369

<sup>8</sup> See 79 Fed. Reg. at 6,364

<sup>9</sup> Scope of UL 391 Standard 1.4 "A product that contains features, characteristics, components, materials, or systems new or different from those covered by the requirements in this standard, and that involves a risk of fire or of electric shock or injury to persons shall be evaluated using appropriate additional component and end-product requirements to maintain the level of safety as originally anticipated by the intent of this standard. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this standard does not comply with this standard. Revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this standard."

<sup>10</sup> In years past and recently in the summer of 2013, our company inquired with 3 separate EPA Accredited laboratories to obtain pricing on testing to the CSA B415.1-10 standard. We were advised at that time, by all the labs, that all of our furnaces would be required to be tested individually and not by model type. See 79 Fed. Reg. at 6,332 The pricing that we received for lab testing was extremely high, as was the follow-up services and labeling costs for a test that was, up until the publishing of this draft proposal, without solidity to a reference method and proposal to regulate affected forced-air furnace products, upon effective date, meet the Step 1 PM limit of 0.93 lb/MMBtu. See 79 Fed. Reg. at 6,333

- e) Upon successful demonstration at 0.93 (lbs/MMBtu) limit and assuming changes are made to come into compliance to Step 1 limit - Schedule UL review of furnace model lines.
- f) Submit modified sample models to UL for evaluation of construction modifications and changes to controllers for approval and compliance to UL 391 and CSA B366-1-M1.<sup>11</sup> We estimate these costs to range between \$10,000 to \$15,000 per furnace submission.
- g) Submit to UL for approval on all changes to drawings, owner's manuals, parts lists, etc. included in the due process of complying with EPA's Step 1 limit.
- h) Submit application to EPA for certification (notification) of model lines, submit results of emissions tests conducted and comply with all other requirements as proposed in § 60.533(b)<sup>12</sup>
- i) Await approval of application by the Administrator for certification of compliance for each model line as required in § 60.532.<sup>13</sup>

The due process outline is assumed here, however it is anticipated at a very minimum of the actual burden and cost impact on our company and assuming that the due processes in paragraphs (e) and (f) will be required to "step and repeat" at the very least a couple times, the cost impact will become financially crippling to our small company.

EPA's proposal does not adequately reflect actual costs, nor does it support the required transition period that will really be needed by our company and other manufacturing companies that solely sell products that have a UL Safety Listing already in place. Notwithstanding, lack of evidence of precision of B415.1-10 for the proposed forced-air furnace standard, compliance will affectively be a game of chance.

### III. EPA's Subpart QQQQ Proposes Regulation to Same Standard for Forced-Air Furnaces and Hydronic Heaters

EPA is proposing to regulate forced-air furnaces to the same standard to which hydronic heaters will come into compliance and did not take full consideration of the widely varying characteristics that are unique to each appliance type. EPA has taken an inappropriate approach by adding the two appliance categories together, whereas, the installation and controlling of the units are unique to each product type. Forced-air furnaces and hydronic heaters are not controlled with the same control types. EPA has not accounted for the various differences between forced-air furnaces and hydronic heaters that would make technology transfer unworkable, infeasible and potentially unsafe.

EPA has not enforced emission standards on forced-air furnaces in the past, yet, erroneously determines that forced-air furnaces and hydronic heaters may be demonstrated at the same emission levels. EPA's assertion that because forced-air furnaces "are whole house heating systems, they have the capacity to generate large amount of emissions",

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<sup>11</sup> The UL investigation and testing of our oil/wood/coal furnace demonstrated compliance to Solid-Fuel and Combination-Fuel Central and Supplementary Furnace - UL 391, Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances – NFPA 211- they are intended for installation in compliance with the Standard for Installation of Warm Air Heating and Air Conditioning Systems – NFPA 90B; and the National Electric Code, ANSI/NFPA 70; and mechanical codes such as the BOCA National Mechanical Code, the Standard Mechanical Code and the Uniform Mechanical Code. The UL evaluation of the gas model furnace was also investigated for compliance to Gas Fired Central Furnaces, Fifth Edition - ANZI Z21.47.

<sup>12</sup> See 79 Fed. Reg. at 6,367

<sup>13</sup> See 79 Fed. Reg. at 6,377

whereby there is no test data to back up this claim that we determine to be an assumption on EPA's part. EPA goes on further to say that hydronic heaters are in direct competition with forced-air furnaces, which is not necessarily a correct statement.<sup>14</sup> EPA does not support these findings with reports or data showing actual number of units sold in a year or that our 37-year selling history shows us – that a potential [wood appliance customer] is shopping for one type or the other. Existing homes are set up for one or the other type of heating system. Wood burning forced-air furnaces require all metal ducting system that disperses the heat throughout the home, whereas, hydronic heaters (including outdoor wood boilers) are plumbed using steel pipes to disperse the water to radiators or through tubes in the flooring that heat separate rooms in the home. These are two completely different animals that typically would not universally share the same technology.

#### IV. EPA Has Not Provided Provisions for Logjams in Certifying Labs

EPA does not think that logjam provisions are needed at this time, because they were never invoked in the current NSPS.<sup>15</sup> However, there are only a few forced-air furnaces, which are smaller furnaces (<65,000 Btu) and hydronic heaters that have demonstrated compliance to the consensus based B415.1-10 reference method and assuming EPA's estimate is correct and there are approximately 250-300 manufacturers building wood burning heaters.<sup>16</sup> This tells us that these manufactures' that manufacture wood burning heaters (our company included) that are not already in compliance to the proposed rule will be sending in samples to EPA Accredited labs all within the same or very close to the same time frame. With very few laboratories in the United States having experience testing forced-air furnaces to the CSA B415.1-10 method, there will ultimately be delays that will hold up process to accommodate manufacturers in testing, certifying and labeling of the model lines submitted. Furthermore, EPA is "proposing to retain final EPA approval of the certification [ ]"<sup>17</sup> further delaying due process. This will add more costs and could cripple our industry in very short time of the effective date absent very significant reconsideration of transition time. (e.g. extension of effective date) In addition, EPA should delete the provision (proposed § 60.538(i)) prohibiting certifying entities from certifying their own certification test reports. Such a prohibition is contrary to ISO/IEC 17046, unduly restrictive, and unjustified.

EPA has requested comment on "development of a manufacturer-specific quality assurance plan..." and is proposing a requirement to retest when quality assurance criteria are exceeded.<sup>18</sup> We comment that within the authorization and umbrella of a UL Listed product, the manufacturer – "we" - must strictly adhere to the UL Procedure that is attached to the Testing and Labeling requirements of each and every product category. All other laboratories performing Safety Testing on solid fuel burning appliance are testing the product to a UL Standard. Those Testing and Labeling protocols being performed by other laboratories consequently shadow the respective UL Standard in its entirety. (e. g. UL 391- Solid-Fuel and Combination-Fuel Central and Supplementary Furnace) Whereas, firebox dimensions, air introduction systems, dimensions and fit of gaskets, forced air combustion systems, etc. are all inclusive to the design of the unit that is being tested to UL Safety Standards. Any changes to design, including metal thickness, baffling components, burners, controls or anything else without the Safety Test Laboratory's knowledge or approval, would result in the Safety [UL] Label removal as required by UL 391 (Scope 1.4). Essentially, if Safety testing has been performed on a product, then there is a defined Quality Assurance plan in place and there is a follow-up service contract with the Testing Laboratory.

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<sup>14</sup> See 79 Fed. Reg. at 6,360(2)(b)

<sup>15</sup> See 79 Fed. Reg. at 6,366

<sup>16</sup> See 79 Fed. Reg. at 6,369

<sup>17</sup> See 79 Fed. Reg. at 6,366

<sup>18</sup> See 79 Fed. Reg. at 6,366

V. Combination Furnaces Are Not Adequately Specified in Proposed Rule

There are approximately 3 companies in the United States that manufacture forced-air combination furnaces and we manufacture the only multi-fuel line in the United States that is "Listed" by UL to vent all fuels out one chimney. Our combination oil/wood/coal and gas/wood/coal furnaces are also unique in that by design the oil or gas lights the wood in the firebox automatically by thermostat control. (e.g. not hand fired) In the overview of the consensus based CSA B415.1-10 reference method we cannot find provision for testing of this forced-air combination furnace type, although a combination furnace as described as an appliance that the CSA B415.1-10 Standard applies to<sup>19</sup> there is no reference to a method of testing.

Proposed certification and regulation on combination oil/wood/coal, gas/wood/coal or electric/wood/coal forced-air furnace type product is not adequately addressed by EPA in the preamble or elsewhere in the proposed rule. These are unique furnaces that are designed to burn wood, coal, liquid fuel (e.g. Fuel Oil, Natural or LP Gas) or electricity. Generally, this category type is a large forced-air furnace ( $\geq 100,000$  Btu) that heats the entire home or building on one of the fuels that is specific to the unit. This furnace type will operate solely as gas, oil or electric furnace when there is no one to load the firebox, therefore it is indeterminate as to whether combination furnaces are considered to be affected heaters or not. EPA needs to clarify the applicability of test method, certification and regulation of combination forced-air furnaces for purposes of this proposal.<sup>20</sup>

VI. Survival of Forced-Air Furnace Industry will be Determined by Transition Provisions

As drafted in EPA's proposal, the regulatory text does not include provisions for transitional relief, nor does the proposed rule provide for "sell-through" of models that are currently uncontrolled. EPA proposes to begin regulation on the effective date of the final rule, therefore, manufacturers will not be able to build or sell models that are in stock unless they have been tested by a certifying laboratory and are certified to the Step 1 standard. EPA has solicited comment on the appropriateness of a 1-year extension of the effective date for these appliances.<sup>21</sup> We strongly believe that a 1-year extension of the effective date will not allow enough time to come into compliance to the Subpart QQQQ regulation. We believe that - at the very minimum - at least 2 additional years will be needed for transition; especially since there are no large furnaces that have been tested to the CSA B415.1-10 method or that have demonstrated compliance to the 0.93 limit. We also strongly believe that the extension of the effective date must include a sell-through provision to avoid a crushing economic impact on not only our company, but also our entire industry.

An extension of the effective date for forced-air furnaces will be vital to our company to conduct R&D, get through accredited laboratory logjam, schedule and submit models back to UL for evaluation and approval and submit application with test results and QA/QC plan for EPA approval and obtain a certificate of compliance from EPA. Additional time will also be needed to produce new drawings, rewrite owner's manuals subject UL approval, make necessary changes to product catalogs and educate our sales force. Also, a 1-year extension of the effective date, plus additional time - of at least 2 years beyond extension - will allow us time and cost relief for testing and certification of more than one model furnace. ***We cannot survive nor have any hope of growing our business if our product line sheet consists of only one EPA representative furnace model.***

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<sup>19</sup> As referenced in 1.1.3(c) CSA B415.1-10

<sup>20</sup> See 79 Fed. Reg. at 6,368

<sup>21</sup> See *id.* at 6,363 (seeking comment on a "1-year 'adjustment period'").