

Testimony of David McDonald, Environmental Relations, Central Boiler, Inc.,
On Certain Outdoor Wood-Burning Furnaces (SB 830)
To the Connecticut General Assembly – Committee on the Environment
February 9, 2011

Good afternoon Chairmen Meyer and Roy, and members of the Committee. My name is David McDonald and I work in Environmental Relations for Central Boiler, Inc. a US based manufacturer of Outdoor Wood Burning Furnaces (OWFs) or what are more recently referred to as hydronic heaters by EPA. Prior to my work for Central Boiler, I was a code enforcement officer in the State of California and a certified building inspector. I have authored several "model ordinances" for lawmakers regarding OWFs. During the last 5 years, my job has been to work directly with many state legislators and local lawmakers across North America to establish regulations that are both reasonable and consistent for industry, dealers and consumers but also effective for lawmakers.

Central Boiler is opposed to Senate Bill 830. It is not reasonable that a Connecticut citizen, who legally purchased, installed and operates their OWF to lose their right to use their furnace. Central Boiler would support appropriate changes to the Senate Bill which would establish emission limits, testing methods and labeling requirements used in the current EPA Phase 2 Hydronic Heater Program. Setbacks, chimney height, proper fuel use and nuisance provisions should also be included and be consistent with other northeast States (see attached summary sheet).

Starting in 1995, Central Boiler was one of the first OWF manufacturers to begin working with the EPA regarding our products. Manufacturers have invested significant resources and made a commitment to emissions reductions through the US EPA Hydronic Heater Program and preparing for revisions to the NSPS (New Source Performance Standards) to include OWFs. The testing methods used in the Program are internationally recognized test methods developed in ASTM (American Society for Testing and Materials) or EPA's own test method. Testing is done with the same EPA accredited laboratories used by certified indoor woodstoves and the particulate sampling method (ASTM E2515) is also the same. Since the start of the Phase 2 program, OWF models have been qualified that are as clean as or cleaner than EPA certified indoor woodstoves, even while producing 3 to 10 times the amount of heat of a typical certified indoor wood stove. The attached table illustrates this point.

This table includes the latest testing and emissions information directly from the US EPA "Burn Wise" website for both certified indoor wood stoves and EPA Phase 2 Hydronic Heaters. The table compares current EPA Phase 2 Hydronic Heaters with the EPA certified indoor wood stoves. The table shows that the current EPA limit for certified indoor (non-catalytic) woodstoves is 7.5 g/hr (used since 1990).

The Phase 2 program has also resulted in the following:

1. 22 of 23 EPA Phase 2 Qualified Hydronic Heaters emit less than 7.5 g/hr.
2. The average Annual Emissions Rate (g/hr) for the Stick Wood Phase 2 hydronic heaters listed on the EPA Burnwise website is 4.3 g/hr.
3. The average Annual Emissions Rate (g/hr) for the Wood Pellet Phase 2 hydronic heaters listed on the EPA Burnwise website is 1.9 g/hr.
4. Finally, 16 of 23 EPA Phase 2 Qualified hydronic heaters emit less than the State of Washington limit of 4.5 g/hr.

An OWF can effectively heat an entire home while replacing multiple indoor wood stoves. In many cases, Connecticut consumers with larger homes have found that it is impossible and impractical to provide their heating needs with a conventional or even new certified indoor woodstove. Consumers also choose an OWF because it removes risk of fire hazards and carbon monoxide build up or oxygen depletion associated with indoor heating appliances. Central Boiler has offered change-out programs and incentives to consumers towards the purchase of cleaner and more efficient ways to heat with wood. Consumers have changed out both older models of indoor wood stoves along with older OWFs and replaced them with new low emissions and high efficiency EPA Phase 2 Qualified Hydronic Heaters while being able to take advantage of Federal Tax credits. Central Boiler dealers have sold approximately 100 EPA Phase 2 Qualified Hydronic Heaters into the State of Connecticut even though not required by Connecticut law. The State of Vermont is currently conducting a change-out program using EPA Phase 2 Qualified Hydronic Heaters.

Again, Central Boiler opposes Senate Bill 830. The current Connecticut law in place since 2005 has served the purpose of establishing specific requirements for new and existing OWFs. It also includes specific language to adopt the NSPS for OWFs when promulgated by the US EPA. Should this Committee consider changes to this law, Central Boiler would support appropriate changes to the Senate Bill which would require emission limits, testing methods, labeling requirements used in the current EPA Phase 2 Hydronic Heater Program while establishing setbacks, chimney height, proper fuel use and nuisance provisions similar to other northeast States.

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Comments	Summary of Current NSPS Activity, Current Connecticut Law & Regulations/Laws in Other States
<p><u>UPDATE - NSPS (New Source Performance Standards) revisions</u></p> <ul style="list-style-type: none"> • NSPS is currently in the process of being revised to include a host of wood heating appliances, including hydronic heaters • NSPS revision proposal – June 2011 • <u>Revision promulgation – July 2012</u> 	<p style="text-align: center;"><u>STATE OF CONNECTICUT – Public Act 05-227</u></p> <ul style="list-style-type: none"> • “(b) No person shall, from the effective date of this section to the <u>effective date of regulations promulgated by the United States Environmental Protection Agency</u> to regulate outdoor woodburning furnaces, construct, install, establish, modify, operate or use an outdoor woodburning furnace, unless” • Not less than 200 ft from the nearest neighboring residence not serviced • Chimney is more than the height of roof peaks of residences not served within 500 ft.
<p style="text-align: center;"><u>Consistent State Regulations until the NSPS is Promulgated</u></p> <ul style="list-style-type: none"> • Promote cleaner outdoor units through common standards across the states that will protect air quality and public health • Reducing the compliance burden on manufacturers • <u>Uniformity in regulatory requirements among states is the Caucus’s major concern</u> 	<p style="text-align: center;"><u>Connecticut Actions Last 3 Years</u></p> <ul style="list-style-type: none"> • 2008 - HB 5804, An Act Regulating the Sale of Outdoor Wood Burning Furnaces – (3 day right of rescission) • 2009 - SB 779 An Act Providing Consumer Protections To Purchasers Of Outdoor Wood-Burning Furnaces –(3 day right of rescission) • 2010 - S.B. 126 (Raised) Environment. '<i>An Act Adding Wood Smoke To The Public Nuisance Code And Concerning Outdoor Wood-burning Furnaces</i>' • 2011 - S.B. 830 (RAISED), ENVIRONMENT. '<i>AN ACT PROHIBITING THE USE OF CERTAIN OUTDOOR WOOD-BURNING FURNACES</i>'
<p><u>Emissions limit – Phase 2 (II) 0.32 lbs/million Btu heat output</u></p> <ul style="list-style-type: none"> • ≤ 0.32 lbs/million BTUs heat output, 18 g/hr cap. This is the same g/hr cap set in the NSPS for indoor woodstoves. 	<ul style="list-style-type: none"> • NESCAUM: 0.32 lbs/million Btu heat output • EPA: 0.32 lbs/million Btu heat output • Vermont: 0.32 lbs/million Btu heat output • Maine: 0.32 lbs/million Btu heat output • New Hampshire: 0.32 lbs/million Btu heat output • Massachusetts: 0.32 lbs/million Btu heat output • Maryland: 0.32 lbs/million Btu heat output • Pennsylvania: 0.32 lbs/million Btu heat output • New York: 0.32 lbs/million Btu heat output
<p style="text-align: center;"><u>Testing Standards</u></p> <ul style="list-style-type: none"> • EPA Test Method 28 OWHH • ASTM E2618-09 should be added as an additional Test Method for “continuous feed models.” • ASTM Method E2515 – (Dilution tunnel sampling) also should be referenced. <ul style="list-style-type: none"> ○ ASTM E2515 is the same dilution tunnel particle sampling used for testing EPA certified Phase II indoor woodstoves 	<ul style="list-style-type: none"> • Maryland: incorporates ASTM E2618 <ul style="list-style-type: none"> ○ Test Method 28 OWHH & ASTM E2618-09 • Maine, New Hampshire, Pennsylvania: incorporates all test methods in the EPA Hydronic Heater Phase 2 Program. • The US EPA Hydronic Heater Phase 2 Program incorporates Test Method 28 OWHH, ASTM E2618-09 and ASTM E2515. • New York – Test Method 28 OWHH

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<p><u>Setbacks Requirements - Phase 2 – 0.32 lbs/million Btu heat output</u></p> <p>A strong argument can be made that no setbacks requirements are necessary for appliances that meet the EPA HH Phase 2 Program emissions limit of 0.32 lbs/million Btu heat output.</p> <p>However, the setbacks in Maine - 50 feet from a property line or 70 feet from the nearest neighboring residence is reasonable.</p> <p>***It is easy and cost effective for consumers and local governments to determine setbacks with modern day range finders and local GIS mapping systems to neighboring residences and it is consistent with current State of Connecticut requirements.</p>	<ul style="list-style-type: none"> • <u>NESCAUM: No setback requirements.</u> • Vermont: 100 ft from another residence (no chimney height requirement) • Maine: 50 ft. from a property line or 70 feet from another residence. • New Hampshire: 50 ft. from a property line • Massachusetts: 50 ft from property line and 75 ft to nearest occupied building. • Maryland: setbacks are local issue. • Pennsylvania: 50 ft. from a property line. • New York: 100 ft. from property line or 100 ft. from neighboring residences if on 5 contiguous acres.
<p><u>Chimney Height Requirements – Phase 2 – 0.32 lbs/million Btu heat output</u></p> <p>The requirement should be that a unit have stack height two feet higher than the height of adjacent structures for appliances that are EPA HH Phase 2 qualified – (0.32 lbs/MMBtu output).</p>	<ul style="list-style-type: none"> • <u>NESCAUM: No chimney height requirements</u> • Vermont: No chimney height based upon their setbacks from neighboring residences. • Maine: Taller than residence served if neighboring residences are within 300 feet. • New Hampshire: No chimney height requirement. • Massachusetts: Taller than any roof structure within 150 feet if a residence not served is within 150 feet. • Maryland: local issue. • Pennsylvania: 10 ft. above the ground and according to manufacturer's recommendations. • New York: 18 ft. minimum or may be taller than any roof structure within 150 ft. of the hydronic heater.
<p><u>Labeling – Needs to be consistent with EPA</u></p> <p>All labeling should be completely consistent with the US EPA Hydronic Heater Phase 2 Program.</p>	<p>EPA made changes to the permanent label to be consistent with the requirements in Massachusetts. This makes it extremely difficult and cost prohibitive to make labels that are not consistent with the US EPA Hydronic Heater Program.</p> <p>*Massachusetts requires a separate temporary label but appeared to be unaware of the EPA Hang Tag.</p>

Emissions (g/hr) vs Heat Output Rate (Btu/hr) of Wood Burning Boilers and Wood Stoves

