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American Lung Association
of New England

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Nancy Alderman, President
Environment and Human Health, Inc.
1191 Ridge Road
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Dear Ms. Alderman,

As the Connecticut Director of Health Promotion and Public Policy from the American Lung Association of New England (ALANE), we are pleased to extend our strong support of legislation which bans Outdoor Wood Burning Boilers also known as Outdoor Furnaces.

The American Lung Association is a statewide voluntary health organization dedicated to fighting lung disease through research, education and advocacy. Our efforts focus largely on assuring healthy indoor and outdoor air quality, tobacco prevention and control, and advocating for quality affordable health care for all.

Please feel free to contact me at 860.838.4376 or dmays-hardy@lungne.org with any questions.

Sincerely,

Dawn Mays-Hardy, MS
Director, Health Promotion and Public Policy
American Lung Association of New England

Position Statement: Outdoor Wood Boilers

Background: Outdoor wood boilers are detached wood-fired units that heat water used for domestic consumption and heating. The increasing use of outdoor wood boilers has also led to an increasing number of complaints due to the intensity of the air pollutant emissions they generate. The American Lung Association of New England therefore considers the use of outdoor wood boilers an emerging public health problem that must be addressed.

Position: The American Lung Association of New England (ALANE) strongly cautions against the use of outdoor wood boilers for residential heating purposes. The design and operation of most outdoor wood boilers (OWBs) have been found to create air quality impacts far greater than what is currently acceptable from indoor wood burning devices. (1,2) Until such time as these boilers can be designed to meet acceptable public health criteria, we do not support their use and view them as a potentially important lung health hazard. We further advocate for the development of risk assessment methods to better characterize the health risks associated with these devices and the degree of hazard posed by these units relative to other kinds of wood combustion.

Rationale:

All combustion devices release pollutants that are harmful to lung health. For certain classes of these pollutants, such as fine particles and toxic air contaminants, there is no safe level of exposure. Consequently, these devices should be operated to ensure maximum combustion efficiency by having an optimal temperature, air supply, and residence time in the combustion chamber. Furthermore, the stack heights should be high enough to permit adequate dispersion of the pollutants that are released. In addition, the exit plumes should be at hot enough temperatures to assure buoyancy and mixing with clean air.

The outdoor wood boiler design is inconsistent with the designs used to reduce emissions from wood burning devices to acceptable levels for public health. According to the Michigan Department of Environmental Quality (3):

- The firebox is surrounded by a large water jacket. This is good for heating water, but it cools the escaping gases before combustion is complete.
- There are long periods of time when the wood just smolders. During these periods of low air flow, creosote collects on the water jacket walls. When the fire is rekindled, the creosote burns off and creates black soot.
- The stacks of these units are very short. Smoke and soot are released close to the ground.

In addition, OWBs can and are used to burn year round, thus not limiting the health concern to a seasonal problem. The large firebox capacity of many OWBs also turns them into functional incinerators, enabling owners to burn railroad ties, trash, commercial waste, animal carcasses, and other dirty fuels unsuitable for residential combustion.

Unlike wood stoves used inside, there are no federal regulations to limit the amount of pollution outdoor wood boilers generate. Many emit over ten times more air pollution than an Environmental Protection Agency certified wood burning stove. The State of Washington regulations limit the amount of emissions from outdoor wood boilers to less than four and one-half grams per hour (4). Based on current emissions data, this restriction would limit the amount of fine particulate air pollution coming from outdoor wood boilers by almost 95%. This ALANE advisory will remain in effect, therefore, until outdoor wood boilers can be designed to limit the health and air quality impacts to at least a level commensurate with the State of Washington standards.

Adopted 10-25-07

Notes:

1. Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State, Attorney General of New York State, Environmental Protection Bureau, August, 2005
2. Philip Johnson, "In Field Ambient Fine Particle Monitoring of an Outdoor Wood Boiler: Public Health Concerns," Journal of Human and Ecological Risk Assessment, in press.
3. Michigan Department of Environmental Quality, Outdoor Wood Boiler and Air Quality Fact Sheet, DRAFT, November, 2004.
4. State of Washington, Solid Fuel Burning Devices, Chapter 173-433, Washington Administrative Code, 2/3/93.