

Town of Shutesbury  
Board of Health  
A Regulation to Control the Installation and Use of Outdoor Wood Burning Boilers  
Adopted on October 17, 2007

A. Authority

This regulation shall be effective immediately upon approval by the Massachusetts Department of Environmental Protection (per M.G.L. Ch. 111, Section 31C), and remain in effect until modified or amended by the Shutesbury Board of Health. It is enacted under authority granted by, but not limited to, Massachusetts General Laws Chapter 111, sections 31, 31C, 122, 142A through 142M. Board of Health regulations are an exercise of the police power under which the various levels of government hold responsibility for protection of the public health, safety, and welfare.

B. Purpose

This regulation has been enacted by the Board of Health for the purpose of minimizing the human health hazards resulting from the smoke, particulate matter, and noxious fumes emitted by Outdoor Wood Burning Boilers (OWBs); requiring proper techniques in the use and location of these boilers; and promoting public comfort and convenience.

C. Findings

Certain types of OWBs have been shown, because of their design, to emit significantly high quantities of smoke, particulate matter, and other noxious fumes. Exposure to particulate matter in smoke from an OWB can increase adverse respiratory and cardiovascular symptoms and exacerbate other harmful health conditions, such as asthmatic sensitivity, lung illnesses, and cancer (*Connecticut Department of Environmental Protection, Fact Sheet, July, 2004*).

Poor installation, placement, and management of these facilities, plus the use of inappropriate fuel, can increase the harmful effects of the smoke created by the firing of these units.

D. Definitions

Clean wood: wood that has no paint, stains, or other types of coatings, and wood that has not been treated with, including but not limited to copper chromium arsenate, creosote, or pentachlorophenol.

Commercial-size heater: a heater with a rated thermal output greater than 350,000 Btu/hr as rated by the test method specified by the Massachusetts Department of Environmental Protection (MADEP) or the U.S. Environmental Protection Agency (EPA).

Installed Unit: any unit that is installed and/or operational at the intended location of use prior to the promulgation of this regulation.

Model line: all OWBs offered for distribution or sale by a single manufacturer that are substantially similar in design and make as determined by MADEP or EPA.

New model: an outdoor woodburning boiler of a new design including a new thermal output rating that is not available for sale at retail as of the promulgation date.

Opacity: the degree to which emissions other than water reduce the transmission of light and obscure the view of an object in the background.

Outdoor wood burning boiler: a fuel burning device that (1) is designed to burn wood or other approved solid fuels; (2) is specified by the manufacturer for outdoor installation or installation in structures not normally occupied by humans (e.g., garages); and (3) heats building space and/or water via the distribution, typically through pipes, of a fluid heated in the device, typically water or a water/antifreeze mixture.

Particulate matter (PM): means total particulate matter including PM10 and PM2.5 (condensable and non-condensable fraction).

Residential-size heater: a heater with a rated thermal output of 350,000 Btu/hr or less as rated by the test method specified by MADEP or EPA.

Startup period: the time period that begins with flame stability after first charge of wood fuel and lasts no longer than two hours. This definition only includes initial startup where no previous coal bed exists. This does not include refueling.

## E. Particulate Matter Emission Standard for New Units

### 1. Certification requirement

Only OWBs which have been certified by MADEP or EPA or by laboratories accredited by MADEP or EPA to meet the particulate matter emission standards described below may be installed in the Town of Shutesbury.

#### a. Residential Woodburning boilers

Phase I: For the period beginning with the date of adoption of this regulation and ending March 31, 2010, the amount of particulate emissions from a residential-size OWB may not exceed 0.44 pounds per million British thermal units (lb/MMBtu) heat input. In addition, units meeting the Phase I limit must be installed according to the setback and stack requirements defined in section F, 3-5, below, and operated in accordance with section F-6.

Phase II: Beginning April 1, 2010, the amount of particulate emissions from a residential-size OWB may not exceed 0.32 lb/MMBtu heat output. In addition, within each of the burn rate categories, no individual test run shall exceed 15 grams per hour. Units that meet the Phase II emission standard are exempt from requirements detailed in section F, 4-6, below.

b. Commercial-size Woodburning boilers

Phase I: For the period beginning with the date of adoption of this regulation and ending March 31, 2010, the amount of particulate emissions from a commercial-size OWB may not exceed 0.44 pounds per million British thermal units (lb/MMBtu) heat input. In addition, units meeting the Phase I limit must be installed according to the setback and stack requirements defined in section F, 3-5, below, and operated in accordance with section F-6.

Phase II: Beginning April 1, 2010, the amount of particulate emissions from a residential-size OWB may not exceed 0.32 lb/MMBtu heat output. In addition, within each of the burn rate categories, no individual test run shall exceed 20 grams per hour. Commercial-size units that meet the Phase II emission standard are not exempt from requirements detailed in section F, 4-6.

2. Visible Emission Standard

a. The emission of a smoke plume from an OWB may not exceed an average of 20 percent opacity for six consecutive minutes in any one-hour period.

b. Exception. Visible emissions may not exceed 40 percent opacity for 20 consecutive minutes during the startup period of a new fire. This only includes initial firing of the unit where no coal bed exists. This exception does not apply to refueling.

F. Requirements

1. All new installations before March 31, 2010, must meet at a minimum EPA/NESCAUM Phase I emission standards as defined in Section D above. Units which meet Phase II standards are exempt from requirements pertaining to stack height, property line setbacks, and seasonal use. All new installations after March 31, 2010, must meet at a minimum EPA/NESCAUM Phase II emission standards as defined in Section D above.

2. Permits and Written Plans

a. A permit is required from the Shutesbury Board of Health to install an outdoor wood burning boiler. The permit process shall include submission of a written Construction Permit Application and payment of the permit fee established by the Board of Health.

b. The application must be accompanied by a written site plan indicating the distance and location of the proposed boiler in relation to the following:

- all existing on-site buildings and outbuildings
- all neighboring structures within 400 feet
- all roads adjacent to the site
- all woods, brush, and flammable structures within 100 feet.

3. A clear radius of 20 feet must be maintained between any OWB and any trees or vegetation of height greater than the height of the top of the fuel feed door.

4. An OWB that does not meet Phase II emission standards must have a smokestack height of at least 2 feet higher than the height of the highest abutting residence (actual roof peak) within a radius of 150 feet.

5. An OWB that does not meet Phase II emission standards must be sited at least 300 feet from the nearest property line.

6. An OWB that does not meet Phase II emission standards may be operated only during the heating season, which for purpose of these regulations is September 16 through June 14.

7. Only fuel may be burned in an OWB; non-fuels, including but not limited to trash, garbage, and construction debris, are expressly prohibited. Permissible fuels are limited to the following:

- clean wood;
- wood pellets made from clean wood;
- other fuels as approved by the Department.

Home heating oil in compliance with the applicable sulfur content limit or natural gas may be used as starter fuels for dual-fired outdoor OWBs.

8. The manufacturer's recommendations for the installation and use of the unit must be followed.

9. Owners of boilers installed before the effective date of these regulations must apply for a permit from the Board of Health within ninety (90) days of the adoption of the regulations. Failure to apply for a permit for a previously installed unit shall result in an order to remove the boiler or render it permanently inoperable. Upon application, owners may request a waiver from sections of the regulation that they do not meet. In such cases, a Construction Permit Application must be submitted to the Board of Health and such installation must be in compliance with all local zoning regulations and state plumbing and electrical codes. Following a public hearing on the requested waiver, the Board of Health shall determine whether to grant the waiver based on the public health, safety, and welfare.

10. The Board of Health shall have the right to take appropriate enforcement or other action in accordance with Chapter 111 of the Massachusetts General Laws, with respect to any such boiler that it determines constitutes a nuisance or public health risk.

## G. Enforcement and Remedies

1. If an inspection or examination reveals that an OWB is installed or operated in a manner that is not compliant with these regulations, the Board of Health is authorized to issue notices of violation, cease and desist orders, and other administrative enforcement orders to compel compliance with these regulations.
2. If an inspection or examination determines that an OWB is operated in a manner that constitutes a threat to public health, safety, or welfare; a nuisance; or a cause of odor, filth, or sickness, in accordance with Massachusetts General Laws Ch. 111, the Board of Health or its agent shall issue an order to cease operation of the OWB.
3. The Board of Health may take enforcement action deemed appropriate and lawful, including but not limited to criminal prosecution; civil action for injunctive relief or money damages; or both. The Board of Health may levy fines of \$50 for the first day of offense. Any succeeding day of violation may be punished by a penalty of \$250 per day of offense.

## H. Severability

1. Each part of this regulation shall be construed as separate to the end that if any paragraph, sentence, clause, or phrase thereof shall be held invalid for any reason, the remainder of that regulation and all other regulations shall continue in full force.
2. If regulations are promulgated by the Massachusetts Department of Environmental Protection or other state agency that are more restrictive than the present regulations, the state regulations will supersede only those portions of this regulation that are less restrictive than the state regulations.