

# AYER BOARD OF HEALTH OUTDOOR WOOD BURNING BOILER REGULATIONS

## Section 1 Findings & Purpose

WHEREAS, conclusive evidence exists that wood burning devices emit particulate matter, carbon monoxide, and other pollutants known to be detrimental to the health of the public; exposure to these pollutants can cause short-term health harms such as eye, nose, throat, and lung irritation, coughing as well as shortness of breath; and long term exposure to these pollutants can cause asthma, heart and lung disease, as well as cancer, and

WHEREAS, "outdoor wood burning boilers" have been proven to emit a far greater amount of pollutants such as fine particulate matter and a variety of toxic chemicals than conventional indoor wood burning devices, and

WHEREAS, emissions from "outdoor wood burning boilers" are not currently regulated by State or Federal standards, and

WHEREAS, the Ayer Board of Health recognizes the need to protect the public from detrimental effects from pollutants produced by "outdoor wood burning boilers", hereby enacts the following:

## Section 2 Authority

The Board of Health of the Town of Ayer, pursuant to Section 31 and 31C of Chapter 111 of the Massachusetts General Law, hereby adopts these regulations in order to minimize the human health hazards resulting from the smoke and noxious fumes emitted by outdoor wood burning boilers, to encourage proper techniques in the use and location of these boilers, and to promote the public comfort and convenience.

## Section 3 Definitions

- A. Outdoor Wood Burning Boiler: a wood fired boiler, surrounded by a water jacket or cover with a smoke vent or stack that is used to heat water that is carried by pipes to provide heat and/or hot water to a building or structure.
- B. Wood fuel: all wood intended to be used as fuel, including but not limited to trees, cordwood, logs, lumber, sawdust, and wood from manufacturing processes (butt offs) wood pellets, slabs, bark, chips, waste pallets. This definition **DOES NOT** include wood that is chemically treated with any preservative, paint or oil. Moisture content must not exceed 17%.
- C. Seasoned wood: wood that has been cut a year and dried at least 6 months.
- D. Dried Wood: Wood that has the same moisture content as kiln dried Lumber not to exceed 17% moisture.
- E. Improper Operations:



- a. Operating an Outdoor Wood Burning Boiler in a manner contrary to the manufacturers operating instructions,
- b. Burning such material that can cause a public nuisance and/or health hazard and
- c. Operating the Outdoor Wood Burning Boiler in a manner that causes a condition of air pollution; air pollution as defined in 310CMR7.00.

#### **Section 4 Requirements/Permits**

- A. A permit is required from the Board of Health to install and operate an outdoor wood burning boiler. The permit process shall include submission of a written application form and payment of the permit fee established by the Board. In addition, permit applicants must demonstrate to the satisfaction of the Board of Health that they understand the requirements for proper installation and operation of an outdoor wood burning boiler. The application must be accompanied by a map indicating proposed boiler location in relation to other buildings and separation distances from boiler to all buildings and outbuildings on site and all neighboring houses within 400 feet, together with distances to all roads adjacent to site, and distances from boiler to woods, brush, and flammable structures. The Board of Health shall act on a permit application within 60 days of its receipt of a completed application.
  - B. The installation must be completed within 6 months from the date of permit issuance.
  - C. No boiler shall be installed or operated within 50 feet of a house it is serving or within 400 feet of any other house. The Board of Health may grant a variance from these separation distance requirements when it determines that enforcement of the requirements would involve substantial hardship to the applicant and that the variance would not negate the purposes of these regulations.
  - D. The height of the chimney of the outdoor wood burning boiler shall exceed the height of the roof peaks of buildings located within 900 feet of the outdoor wood burning boiler, which buildings are not served by the outdoor wood burning boiler, provided further that in no event shall the height of the chimney be less than sixteen feet, nor shall the chimney height exceed thirty-five feet from the ground level.
  - E. The chimney of an outdoor wood burning boiler must be equipped with a properly functioning spark arrestor system.
  - F. Manufacturer's recommendations for the installation and use of the unit must be followed. A copy of the manufacturer's recommendations/ owners' manual must be submitted to the Board of Health as part of the application.
- When the EPA/DEP adopts regulations/standards regarding emissions from Outdoor Wood Burning Boilers, the Ayer Board of Health will require that all units from that point forward meet the EPA/DEP standards.
- G. Only dry, seasoned, untreated wood fuel may be burned in the boiler unit.
  - H. Outdoor wood burning boilers installed before the effective date of these regulations must apply for a permit within 60 days of the effective date.



- I: The operation of the outdoor wood burning boiler is only between the dates of October 15<sup>th</sup> and April 30<sup>th</sup> of each calendar year.

## **Section 5 Penalties**

Any violation of these regulations shall be punished by a penalty of \$300.00 for the first offense. Each day of violation shall constitute a separate offense. In addition, the Board of health may revoke a permit for failure to comply with the terms of the permit or the provisions of these regulations following a public hearing and notice to the permit holder.

## **Section 6 Fees**

A non-refundable one hundred and fifty dollars (\$150.00) filing fee must accompany a complete permit application.

## **Section 7 Enforcement**

The Ayer Board of Health or its designated agent shall have the right to take appropriate enforcement or other action, in accordance with Chapter 111 of the General Laws, with respect to any such boiler that it determines constitutes a nuisance.

## **Section 8 Waiver Conditions**

Any person may apply for a waiver to the Ayer Board of Health from one or more of the provisions of this regulation. Every waiver request shall be made in writing and shall be subject to a public hearing before the Board of Health. The requesting party, at their sole expense, must notify all property owners within 400 feet if requesting a waiver from Section 4C and within 900 feet if requesting a waiver from Section 4D of their property boundary by certified mail at least ten (10) days prior to the public hearing.

## **Section 9 Severability**

If any part, paragraph, provision or section of this regulation is determined by any Court to be invalid, against public policy, or unconstitutional, said finding shall not affect the legality of any remaining part(s), paragraphs(s), provision(s) or section(s) of this regulation which shall continue in full force and effect.

## **Section 10 Effective Date**


This regulation shall take effect upon its passage.

Ayer Board of Health

Date: 6-11-07

  
Mary Spinner  
Chair

  
Margaret Kidder  
Clerk

  
Marilyn McMillan  
Member

## What is an Outdoor Wood Burning Boiler (OWB)?

- ▶ An outdoor wood burning boiler is surrounded with a water jacket and installed away from the house it services. It is connected to the home heating or hot water system through underground (or sometimes aboveground) piping.

## How do OWBs Work?

- ▶ Large fireboxes surrounded by water jackets.
- ▶ Water is heated to about 180 degrees F.
- ▶ Then the air supply is cut-off.
- ▶ The hot water is circulated into the house through underground (or sometimes aboveground) piping.
- ▶ When the water temperature drops, the air supply is opened up again.

## Why are OWBs a Problem?

- ▶ OWBs commonly produce excessive amounts of smoke and odor and can:
  - Cause local health impacts to neighbors
  - Cause nuisance conditions
  - Effect the enjoyment of property

## Emissions From OWBs

- ▶ Studies have found that one (1) of these units can produce as much fine particulate pollution and soot as:
  - 2 heavy-duty diesel trucks
  - 12 indoor wood stoves
  - 45 passenger cars
  - 1,000 homes with oil heat
  - 1,800 homes with natural gas heat

## How Many OWBs are in MA?

- ▶ It is estimated that 1,140 outdoor wood burning boilers were sold in Massachusetts through 2005.
- ▶ Estimated sales by the end of 2010 are expected to be 3,917 units.
- ▶ Currently there are over 2 dozen known manufacturers of outdoor burning boilers.

## Efficiency of OWBs

- ▶ In general, outdoor wood burning boilers have an operating efficiency in the range of 30-40%.
- ▶ Wood stoves have an operating efficiency in the range of 60-80%.