

AGENCY OF NATURAL RESOURCES  
Montpelier, Vermont

ENVIRONMENTAL PROTECTION REGULATIONS

CHAPTER 5

AIR POLLUTION CONTROL

Subchapter II. Prohibitions

5-204 OUTDOOR WOOD FIRED BOILERS

(a) Applicability.

- (1) This section shall apply to any person who owns, operates, installs, allows the installation or operation of, purchases, *distributes or sells*, or manufactures any outdoor wood-fired boiler for use in Vermont, except as provided below.
- (2) Except for the requirements in [subdivision \(c\)\(3\)](#) of this section, this section shall not apply to any person who owns, operates, installs, allows the installation or operation of, purchases, *distributes or sells*, or manufactures:
  - (i) Any continuously fed outdoor wood-fired boiler that is specifically designed to burn pellet type fuels with metered fuel and air feed and controlled combustion engineering and that is distributed or sold for use in Vermont before March 31, 2010.
  - (ii) Any outdoor wood-fired boiler that is or has been owned by such person for his or her own personal use and is distributed or sold to another for his or her own personal use, provided that the installation requirements in [subdivision \(c\)\(2\)](#) of this section are met. For the purposes of this section, "personal use" means the use of an OWB by an individual solely for residential space or domestic water heating and not to service a commercial or institutional establishment.

(b) Definitions. For the purposes of this section, the following definitions apply, in addition to those of Section [5-101](#) of this chapter.

"*Biomass Fuel*" means solid biological material derived from living, or recently living, vegetation, including natural wood or wood pellets made from natural wood.

"*Distribute or Sell*" means to distribute, sell, advertise for sale, offer for sale, hold for sale, ship, deliver for shipment, release for shipment, or receive and (having so received) deliver or offer to deliver. This term also includes conditional sales and long-term leases.

"*Manufacturer*" means any person who constructs, markets as their own, or imports into the United States an outdoor wood-fired boiler.

"*Model*" means all outdoor wood-fired boilers offered for distribution or sale by a single manufacturer that, in the judgment of the Air Pollution Control Officer, have the same heat output capacity and are similar in all other material respects.

"*Outdoor Wood-Fired Boiler*" (a.k.a., OWB, outdoor wood-fired hydronic heater or outdoor wood furnace) means a fuel burning device: (1) designed to burn primarily wood; (2) that the manufacturer specifies should or may be installed outdoors or in structures not normally occupied by humans, such as attached or detached garages or sheds; and, (3) which heats spaces or water by the distribution through pipes of a fluid heated in the device, typically water or a mixture of water and antifreeze. In addition, as used in subsection (c) of this section only, this term also means any wood-fired boiler that, after October 1, 2009, is actually installed outdoors or in structures not normally occupied by humans, such as attached or detached garages or sheds, regardless of whether such use has been specified by the manufacturer.

"*Phase I OWB*" means an OWB that has been certified by the Air Pollution Control Officer as meeting the particulate matter emission limit specified in Section [5-204\(e\)\(2\)\(i\)](#) of this chapter.

"*Phase II OWB*" means an OWB that has been certified by the Air Pollution Control Officer as meeting the particulate matter emission limits specified in Section [5-204\(e\)\(2\)\(ii\)](#) of this chapter.

"*Untreated Natural Wood*" means *natural wood* that has not been treated with any preservative, herbicide, pesticide, adhesive, paint, stain, oil or other chemical or coating.

(c) Requirements for Purchasers, Installers, and Owners/Operators

(1) Requirements for Purchasers

- (i) On or after October 1, 2009 to March 31, 2010, no person shall purchase any OWB unless it is a *Phase I OWB* or a *Phase II OWB*.
- (ii) On or after March 31, 2010, no person shall purchase any OWB unless it is a *Phase II OWB*.

(2) Installation Requirements

- (i) After October 1, 1997, no person shall install or allow the installation of any OWB that is not a *Phase I OWB* or a *Phase II OWB* unless the *OWB*:
  - (A) Is located more than 200 feet from any residence that is neither served by the *OWB* nor owned by the owner or lessee of the *OWB*; and,
  - (B) Has a permanent *stack* extending higher than the peak of the roof of the structure(s) being served by the *OWB*, if any residence, which is not owned

by the owner or lessee of such *OWB*, is located more than 200 but less than 500 feet from the *OWB*.

- (ii) No person shall install or allow the installation of any *Phase I OWB* unless it is located more than 200 feet from any residence that is neither served by the *OWB* nor owned by the owner or lessee of the *OWB*.
- (iii) No person shall install or allow the installation of any *Phase II OWB* unless it is located more than 100 feet from any residence, school or health care facility that is neither served by the *OWB* nor owned by the owner or lessee of the *OWB*.
- (iv) No person shall install or allow the installation of any *OWB* unless it complies with all applicable laws and regulations, including but not limited to local ordinances, and its operation does not create a public nuisance.

(3) Operation Requirements

- (i) No person shall cause, suffer, allow or permit the operation of any *OWB* unless it was installed in accordance with the applicable requirements of [subdivision \(c\)\(2\)](#) of this section.
- (ii) Allowable fuels. No person shall cause, suffer, allow or permit the burning of any material in an *OWB* except for the following:
  - (A) *Untreated natural wood*, as defined herein;
  - (B) Wood pellets made from *untreated natural wood*;
  - (C) Home heating oil, natural gas or propane that complies with all applicable sulfur content limits and is used as a starter or supplemental fuel for dual-fired *OWBs*; or
  - (D) Other biomass fuels in *Phase II OWBs* certified for such fuels or in *OWBs* described in [subdivision \(a\)\(2\)\(i\)](#) of this section.
- (iii) No person shall cause, suffer, allow or permit the operation of any *OWB*, except in conformance with the manufacturer's operating and maintenance instructions.
- (iv) No person shall cause, suffer, allow or permit the operation of any *OWB* unless it complies with all applicable laws and regulations, including but not

limited to local ordinances, and its operation does not create a public nuisance.

(d) Requirements for Sellers

- (1) On or after October 1, 2009 to March 31, 2010, no person shall *distribute or sell* any *OWB* unless it is a *Phase I OWB* or a *Phase II OWB*.
- (2) On or after March 31, 2010, no person shall *distribute or sell* any *OWB* unless it is a *Phase II OWB*.
- (3) Notice to Buyers.
  - (i) After October 1, 1997, no person shall *distribute or sell* any *OWB* unless prior to any retail sales or lease agreement, the seller or dealer provides the prospective buyer or lessee with written notice stating that:
    - (A) Only allowable fuels, as specified in Section [5-204\(c\)\(3\)\(ii\)](#), may be burned in an *OWB*;
    - (B) Installation of the *OWB* is subject to the applicable *stack* height and/or distance requirements provided in Section [5-204\(c\)\(2\)\(i\)-\(iii\)](#). [Each notice shall expressly disclose each such requirement];
    - (C) Use of an *OWB* that meets the applicable *stack* height and/or distance requirements provided in Section [5-204\(c\)\(2\)\(i\)-\(iii\)](#) is not appropriate in some areas due to terrain that could render the operation of an *OWB* to be a nuisance or a public health hazard;
    - (D) All *OWBs* must be operated in conformance with the manufacturer's operating and maintenance instructions.
  - (ii) The written notice shall be signed and dated by the prospective buyer or lessee to verify timely receipt of the notice prior to the sale or lease and shall contain the name, address and telephone number of both the seller or dealer and the prospective buyer or lessee, the location where the *OWB* will be installed, and the make and model of the *OWB*. Prior to making delivery of an *OWB* into the possession of any buyer or lessee, the seller or dealer shall mail or otherwise provide a copy of the signed notice to the:

Air Quality & Climate Division  
Davis 2  
One National Life Drive  
Montpelier, Vermont 05620-3802

(e) Requirements for Manufacturers

(1) Certification Requirement

- (i) On or after October 1, 2009 to March 31, 2010, no person shall *distribute or sell* an *OWB* unless the Air Pollution Control Officer has issued a certification to the manufacturer that the *OWB*, or *model* it represents, is a *Phase I* or a *Phase II OWB*.
- (ii) On or after March 31, 2010, no person shall *distribute or sell* an *OWB* unless the Air Pollution Control Officer has issued a certification to the manufacturer that the *OWB*, or *model* it represents, is a *Phase II OWB*.
- (iii) A certification issued under this subsection shall be valid for five years from the date of issuance, unless revoked sooner by the Air Pollution Control Officer pursuant to [subdivision \(e\)\(3\)](#) of this section.

(2) Certification Emission Limits.

- (i) To be certified as a *Phase I OWB* under [subdivision \(e\)\(1\)](#) of this section, the *OWB* shall not emit, or cause or allow to be emitted, any gases that contain particulate matter in excess of 0.44 pounds per million BTUs of heat input, as determined in accordance with the test methods and procedures in this subsection.
- (ii) To be certified as a *Phase II OWB* under [subdivision \(e\)\(1\)](#) of this section, the *OWB* shall not emit, or cause or allow to be emitted, any gases that contain particulate matter in excess of 0.32 pounds per million BTUs of heat output, as determined in accordance with the test methods and procedures in this subsection. Separate tests shall be conducted for each biomass fuel type (e.g. wood, corn pellets, etc.) that the manufacturer's owner's manual or sales/marketing information indicates the model is capable of burning. In addition, within each of the burn rate categories established in USEPA test method 28 OWHH (when this method is used), no individual test run shall exceed 18 grams per hour for OWBs with a rated heat output capacity of less than 350,000 BTUs per hour and 20 grams per hour for OWBs with a rated heat output capacity of 350,000 BTU per hour or more.

## (3) Certification Testing Requirements

- (i) To demonstrate that an *OWB* complies with the applicable emission limit(s) under subdivision (e)(2) of this section, the *manufacturer* shall have emission test(s) conducted and furnish the Air Pollution Control Officer with a written report of the test results, including a detailed description of the operating conditions of the *OWB* during the tests. Said written report shall contain such documentation and other information and follow such format as may be specified by the Air Pollution Control Officer. Before submitting any such test report to the Air Pollution Control Officer, the *manufacturer* shall have it reviewed and approved by USEPA's Hydronic Heater Program, USEPA's Environmental Technology Verification Program, or any other agent authorized by the Air Pollution Control Officer for this purpose.
- (ii) In the discretion of the Air Pollution Control Officer, a *manufacturer* may have emission tests conducted on an *OWB* that is representative of one of its models and may use those tests to demonstrate compliance of all units it manufactures of that model.
- (iii) Emission tests shall be conducted by independent testing consultants who have no conflict of interest and receive no financial benefit from the outcome of the testing. *Manufacturers* shall not be involved in the conduct of emission tests, nor in the operation of the unit being tested, once actual sampling has begun.
- (iv) Emission tests shall be conducted and data reduced in accordance with:
  - (A) USEPA Test Method 28 OWHH for Measurement of Particulate Emissions and Heating Efficiency of Outdoor Wood-Fired Hydronic Heating Appliances ("USEPA Test Method 28 OWHH");
  - (B) 40 CFR Part 60, Appendix A, Test Methods 1 through 5, and 40 CFR Part 51, Appendix M, Test Method 202; or
  - (C) Alternative methods approved by the Air Pollution Control Officer.
- (v) If there is any deviation from the test methods specified in paragraph (e)(3)(iv) of this section, the *manufacturer* shall provide the Air Pollution Control Officer with a test protocol at least 30 days prior to the certification testing. In this event, the testing

will not be considered valid without prior approval of the test protocol by the Air Pollution Control Officer.

- (vi) Emission tests shall be conducted under such conditions as the Air Pollution Control Officer shall specify. Testing conducted using USEPA Test Method 28 OWHH or similar laboratory methods shall be performed only by laboratories that hold a valid certificate of accreditation granted by the USEPA pursuant to 40 CFR §60.535. The conditions during testing conducted using EPA Methods 1 through 5 and 202 shall be based on representative performance of the OWB under actual field operating conditions.
  - (vii) The *manufacturer* shall provide the Air Pollution Control Officer with at least 30 days prior notice of any emission test to afford the Air Pollution Control Officer the opportunity to have an observer present. The *manufacturer* of any OWB(s) being tested to meet the requirements of this subsection shall reimburse the state of Vermont for the reasonable expenses incurred by any such observer for out-of-state travel to observe such testing, including among other items the costs of transportation, lodging and meals.
  - (viii) Each *manufacturer* that has been issued a certification under [subdivision \(e\)\(1\)](#) of this section shall maintain all documentation pertaining to the certification test, including the full test report and raw data sheets, laboratory technician notes, field technician notes, if any, calculations and the test results for all test runs for a period of no less than five years from the date the certification is issued.
- (4) Certification Revocation. A certification of an OWB, or *model*, may be revoked by the Air Pollution Control Officer based on any of the following:
- (i) The OWB does not meet the applicable emission limit in [subdivision \(e\)\(2\)](#) of this section based on test data from a retesting of the original unit on which the certification test was conducted;
  - (ii) A finding that the certification test was not valid;
  - (iii) Physical examination showing that a significant percentage of production units inspected are not similar in all material respects to the representative OWB submitted for testing;
  - (iv) Failure of the *manufacturer* to maintain all documentation pertaining to the certification test,

including the full test report and raw data sheets, laboratory technician notes, field technician notes, if any, calculations and the test results for all test runs;

- (v) Denial or revocation of emissions certification or qualification for an *OWB*, or *model*, by another state or the USEPA based on any of the grounds in paragraphs (e)(4)(i)-(iv) of this section; or
- (vi) A finding based on any other evidence that an *OWB*, or *model*, does not comply with the requirements of this subsection.

(5) Notification by *Manufacturers*

- (i) By March 1<sup>st</sup> of each year and within 30 days of receiving a certification for an *OWB* from the Air Pollution Control Officer, each *OWB manufacturer* shall provide the following information in writing to any person to whom the manufacturer has distributed or sold, intends to distribute or sell, or actually *distributes or sells OWBs* for use in Vermont:

- (A) A list of all the models of *OWBs* it manufactures;
- (B) An identification of which, if any, of said *OWB* models has been issued a certification under subsection (e) of this section and thus may be *distributed or sold* for use in Vermont; and
- (C) An identification of which, if any, of said *OWB* models are *Phase I OWBs* that may not be *distributed or sold* for use in Vermont on or after March 31, 2010.

- (ii) By March 15<sup>th</sup> of each year and within 45 days of receiving a certification for an *OWB* from the Air Pollution Control Officer, a copy of all written information provided to comply with subdivision (e)(5)(i) of this section and a list of persons to whom it was provided and their addresses shall be submitted to the Air Pollution Control Officer.

- (f) Enforcement. With respect to 10 V.S.A. Chapters 201 and 211 and 10 V.S.A. §568, each distribution or sale, purchase, installation, or operation of each *OWB* in violation of any of the requirements of this section shall constitute a separate violation.