

Outdoor Hydronic Heater Model Regulation

January 29, 2007

This document contains a model rule to assist state and local agencies in adopting requirements that will reduce air pollution from outdoor hydronic heaters (e.g., outdoor wood-fired boilers). It was developed in cooperation with a number of states and the U.S. Environmental Protection Agency (EPA).

The model regulation is intended to assist government agencies in enacting their own regulations, thus are advisory in nature. The purpose of the model rule is to promote cleaner outdoor units through common standards across the states that will protect air quality and public health while reducing the compliance burden on manufacturers, thus the emphasis on the critical elements listed below. By controlling air pollution from these currently unregulated sources, the model rule can also serve to level the playing field with previously regulated indoor residential wood burning devices.

Since 1988, the federal government has applied emission standards to most wood-fired residential heating devices under its Residential Wood Heater New Source Performance Standards. Outdoor wood-fired hydronic heaters, however, are not included in this regulation and do not have to comply with other boiler emission requirements. Therefore, unlike other solid fuel devices, these pollution sources have no federal regulatory emission standards. With an increase in their use and potential health impacts from their emissions, next door neighbors, local communities, and air quality agencies have a heightened concern about the current and future impacts of these devices.

The various provisions of this model rule are suggestions and examples. To ease the compliance burden on manufacturers, NESCAUM recommends that air quality agencies at a minimum adopt certain critical elements of the model rule. We highlight these elements in the model rule using italicized bold text. The critical elements include:

- Critical definitions
- Emission standards
- Test method procedures
- Certification process
- Labeling requirements

The model rule contains a single method for regulating new units with respect to the critical elements and contemplates that states may propose alternative approaches for other provisions.. It also provides alternatives for states to consider for regulating previously installed units. Items in regular font are recommendations that states should consider, however, given the wide variety of local concerns and varying statutory requirements, these sections should be tailored to meet individual states' needs.

Format of this Document: All **bracketed bold** sections require filling in a name, address, governmental body, date, or other information. While “[state]” is typically listed for filling in, this model rule can be adapted to local agencies that have authority to limit emissions from these sources. ***Italicized bold text*** identifies critical elements that are recommended for adoption by all regulatory agencies undertaking this effort. Footnotes contain explanations or identify issues associated with various aspects of the model rule.

Model Regulation for Outdoor Hydronic Heaters

1. Applicability

- A. This Regulation applies statewide.
- B. This Regulation applies, in its entirety, to any manufacturer, supplier, distributor or person intending to sell, lease, distribute, or market, an outdoor hydronic heater in [state] that meets the definition of an outdoor hydronic heater and to any person who installs, operates or owns an outdoor hydronic heater.

2. Definitions

- A. At Retail – “At Retail” means the sale by a commercial owner of an outdoor hydronic heater.
- B. *Clean wood* – “*Clean wood*” means 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.
- C. *Commercial-size heater* – “*Commercial-size heater*” means a heater with a rated thermal output greater than 350,000 Btu/hr as rated by the test method identified in Section 7D of this Regulation.
- D. *Distribute or sell* – “*Distribute or sell*” means to distribute, sell, advertise for sale, offer for sale, lease, ship, deliver for shipment, release for shipment, or receive and (having so received) deliver or offer to deliver. This term does not include the distribution or sale by a manufacturer of an outdoor hydronic heater that is installed outside the State.
- E. Existing unit – “Existing unit” means an outdoor hydronic heater that is available for sale (or is installed and/or operational at the intended location of use) at retail, wholesale or in the open market as of the promulgation date of this Regulation.
- F. Heater Efficiency – “Heater efficiency” means the ratio of the delivered useful heat output measured by the test methods referenced in Section 7B of this Regulation to the calculated heat input of the heater.
- G. Installed Units – “Installed units” means any unit sold (or is installed and/or operational at the intended location of use) prior to the promulgation of this Regulation.
- H. Manufactured – “Manufactured” means built and operational, and subsequently ready for shipment (whether packaged or not).

I. Manufacturer – “Manufacturer” means any person who constructs or imports into the United States an outdoor hydronic heater.

J. Model line – “Model line” means all outdoor hydronic heaters offered for distribution or sale by a single manufacturer that are substantially similar in design and make as determined by the Department.

K. New model – “New model” means an outdoor hydronic heater of a new design including a new thermal output rating that is not available for sale at retail as of the promulgation date.

L. Nuisance – “Nuisance” means [insert state definition of nuisance].

M. Opacity – “Opacity” means the degree to which emissions other than water reduce the transmission of light and obscure the view of an object in the background.

N. *Outdoor hydronic heater¹* – “*Outdoor hydronic heater*” means a fuel burning device designed to (1) burn wood or other approved solid fuels; (2) that the manufacturer specifies 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.

O. Particulate matter or PM – “Particulate matter or PM” means particulate matter PM10 and PM2.5 including the condensable fraction.

P. *Residential-size heater* – “*Residential-size heater*” means a heater with a rated thermal output of 350,000 Btu/hr or less as rated by the test method identified in Section 7D of this Regulation.

Q. Sale – “Sale” means the transfer of ownership or control.

R. Similar in all material respects – “Similar in all material respects” means that the construction materials, exhaust and inlet air system, and other design features are within the allowed tolerances for components identified in Section 6H of this Regulation.

S. *Startup period* – “*Startup period*” means the time period beginning with flame stability after first charge of wood fuel and is no longer than a two hour duration. This definition only includes initial startup where no previous coal bed exists. This does not include refueling.

¹ The critical element is the definition, not the term – therefore states can choose which term they prefer but all should use the same definition, which is purposely broad in its scope.

3. Prohibitions

A. Outdoor hydronic heaters that have not been certified, as set forth in Section 6, to meet the Phase I or Phase II emission standard, as set forth in Section 4 of this Regulation, and are purchased between the rule promulgation date and March 31, 2008 must be installed 500 feet or more² from a property line³ and must have a permanent stack extending five feet higher than the peak of any roof structure located within 150 feet of the outdoor hydronic heater.⁴

B. Effective March 31, 2008 no person shall:

1. Import, supply, distribute or sell, install or allow the installation of any outdoor hydronic heater subject to this Regulation unless it has been certified as set forth in Section 6 to meet the applicable emission limit set forth in Section 4A(1) or 4B(1) of this Regulation.

2. Outdoor hydronic heaters that meet the applicable 5A(1) or 5B(1) emissions standard but not the 5A(2) or 5B(2) requirements must also meet the following requirements: must be installed 500 feet or more⁵ from a property line and must have a permanent stack extending five feet higher than the peak of any roof structure located within 150 feet of the outdoor hydronic heater.

C. Effective March 31, 2010 no person shall:

1. Import, supply, distribute or sell, install or allow the installation of any outdoor hydronic heater subject to this Regulation unless the outdoor hydronic heater has been certified, as outlined in Section 6, to meet the applicable emission limit set forth in Section 4A(2) or Section 4B(2) of this Regulation.

2. Siting requirements:

a) Units that meet the emission standard defined in Section 4A(2): No setback or stack height requirement.

b) Units that meet the emission standard defined in Section 4B(2): Outdoor hydronic heaters must be installed 300 feet or more from a property line and must have a permanent stack

² Setback requirements are based on average background conditions of 15 $\mu\text{g}/\text{m}^3$. States may need to adjust setbacks accordingly, either greater or lesser, based upon a region's background conditions for fine particulate matter.

³ States may choose to regulate setbacks based upon property lines or based upon the nearest building.

⁴ Setback and stack height requirements should also be codified in building codes.

⁵ Setback requirements are based on average background conditions of 15 $\mu\text{g}/\text{m}^3$, states may need to adjust setbacks accordingly, either greater or lesser, based upon a region's background conditions for fine particulate matter.

extending five feet higher than the peak of any roof structure located within 150 feet of the outdoor hydronic heater.⁶

D. No person shall operate an outdoor hydronic heater from April 15 to September 30 unless the outdoor hydronic heater has been certified, as outlined in Section 6, to meet the emission limit set forth in Section 4A(2) or 5B(2) of this Regulation.

E. Prohibited fuels. No person shall burn any of the following items in an outdoor hydronic heater:

1. Any wood that does not meet the definition of clean wood;
2. garbage;
3. tires;
4. lawn clippings or yard waste;
5. materials containing plastic;
6. materials containing rubber;
7. waste petroleum products;
8. paints and paint thinners;
9. chemicals;
10. coal;
11. glossy or colored papers;
12. construction and demolition debris;
13. plywood;
14. particleboard;
15. salt water driftwood;
16. manure;
17. animal carcasses; and
18. asphalt products.

F. Outdoor hydronic heaters must comply with all applicable laws, including but not limited to local ordinances.

G. No person shall operate an outdoor hydronic heater in such a manner as to create a public or private nuisance. Local Boards of Health may enforce this provision according to their general authority to enforce nuisance conditions within the State Air Quality Regulations.

4. Particulate Matter Emission Standard for New Units

A. Residential Hydronic Heaters

⁶ Setback requirements are based on average background conditions of 15 $\mu\text{g}/\text{m}^3$. States may need to adjust setbacks accordingly, either greater or lesser, based upon a region's background conditions for fine particulate matter.

1. Phase I Emission Standard⁷ – No person shall distribute or sell, lease, import, or install an outdoor hydronic heater after March 31, 2008 unless it has been certified to meet a particulate matter emission limit of 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, as defined in section 3B(2), and the seasonal operation limit, as defined in section 3D of this Regulation. Compliance with this particulate emission limit shall be determined in accordance with the test methods and procedures in Section 6 and 7 of this Regulation.

2. ***Phase II Emission Standard⁸ – No person shall distribute or sell, lease, import, or install an outdoor hydronic heater after March 31, 2010 unless it has been certified to meet a particulate matter emission limit of 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. Compliance with this particulate emission limit shall be determined in accordance with the test method and procedures in Section 6 and 7 of this Regulation.***

B. Commercial-size Hydronic Heaters

1. Phase I Emission Standard – No person shall distribute or sell, import, or install a commercially sized outdoor hydronic heater after March 31, 2008 that has not been tested to meet a particulate matter emission limit of 0.44 lb/MMBtu heat input. In addition, units meeting the Phase I limit must be installed according to setback and stack requirement, as defined in section 3B(2), and the seasonal operation limit, as defined in section 3D of this Regulation. Compliance with this particulate emission limit shall be determined in accordance with the test methods and procedures in Section 6 and Section 7 of this Regulation.

2. ***Phase II Emission Standard – No person shall distribute or sell, import, or install an outdoor hydronic heater after March 31, 2010 that has not been certified, as set forth in Section 6, to meet a particulate matter emission limit of 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. In addition, units meeting the commercial Phase II limit must be installed according to setback and stack requirements, as defined in section 3C(2). Compliance with this particulate emission limit shall be determined in accordance with the test method and procedures in Section 6 and 7 of this Regulation.***

⁷ The Phase I emission rate is based upon a technology transfer analysis. NESCAUM believes that there are several units currently on the market that can meet this standard.

⁸ The Phase II emission rate is based upon a technology forcing and public health impact analysis. NESCAUM believes that there is one unit currently available that can meet this standard.

C. Visible Emission Standard

1. No person shall cause or allow the emission of a smoke plume from any outdoor hydronic heater to exceed an average of 20 percent opacity for six consecutive minutes in any one-hour period.
2. 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.

D. Installed Units⁹

1. Option A – Time Limit Removal Program. All installed and existing outdoor hydronic heaters within the State that do not meet the applicable emission limits defined in Section 4A(2) or 4B(2) shall be removed from all properties by [date] or rendered permanently inoperable by [date]. It shall be a violation of this section for any person on or after [date] to possess or operate an outdoor hydronic heater within [state] unless it is certified to meet the Phase II emission limits as defined in Section 4 of this Regulation, unless it has been rendered permanently inoperable.
2. Option B – Prior Sale or Transfer of Real Property. Prior to the completion or consummation of a sale or transfer of any real property on or after [date], all existing and/or installed outdoor hydronic heaters that do not meet the Phase II emission standard as defined in Section 4 of this Regulation shall be replaced, removed, or rendered permanently inoperable.
3. Option C – Setback and Stack Height Requirement for Installed Units. All existing and installed outdoor hydronic heaters that do not meet the Phase II emission standard as defined in Section 4 of this Regulation within the State shall either meet the Phase I setback and stack height requirements, as defined in Section 4A of this regulation, or be removed from all properties by [date] or rendered permanently inoperable by [date]. The outdoor hydronic heater must be installed 500 feet or more from a property line. The outdoor hydronic heater must have a permanent stack extending five feet higher than the peak of any roof structure located within 150 feet of the outdoor hydronic heater.

5. Fuel Requirements

⁹ The section for installed units is intended for states that wish to address units installed prior to rule promulgation. States may choose to implement one of the three options or combinations of options or defer to local governments to address existing outdoor hydronic heaters.

A. No person that operates an outdoor hydronic heater shall use a fuel other than the following:

1. *Clean wood;*
2. *Wood pellets made from clean wood;*
3. *Home heating oil in compliance with the applicable sulfur content limit or natural gas may be used as starter fuels for dual-fired outdoor hydronic heaters; and*
4. *Other fuels as approved by the Department.*

6. Certification¹⁰

A. Certification Requirement

1. No person shall supply, distribute, sell, lease, offer for sale, or allow the installation of an outdoor hydronic heater in [state] unless the Department, or equivalent authority approved by [state], has issued a certification to the manufacturer that the outdoor hydronic heater, or model line to which it belongs, complies with the particulate matter standard in Section 4 of this Regulation. A certification shall be valid for a period of five years unless revoked by the Department.
2. Certifications for units that meet the Phase I emission limit but not the Phase II as defined in Section 4 of this Regulation will expire prior to the compliance date for Phase II as defined in Section 3C.

B. Certification Procedure: For each model line, units must demonstrate compliance with the applicable emission standard, which may be determined based on testing of a representative number of units within a model line. In order for an outdoor hydronic heater or new model line to obtain a certification by the State, the manufacturer of any such heater shall conduct testing via EPA's Environmental Technology Verification Program and submit the results to the State for its review and approval, or via an alternative program approved by the State.¹¹

C. Issuance of Certification: The Department shall issue a certificate of compliance for a model line if it determines, based on the information submitted by the applicant and any other relevant information available to them, that:

1. A valid certification test has demonstrated that a representative unit of a model line complies with the applicable particulate matter emission limit

¹⁰ States must adopt a certification program, however, states may revise this section as necessary.

¹¹ Appendix A contains a draft of a state certification program.

as defined in Section 4 of this Regulation. To be valid, a certification test must be:

- a) Announced in accordance with Section 7E of this Regulation;
- b) Conducted by an accredited testing facility in accordance with Section 6F of this Regulation;
- c) Conducted on a unit similar in all materials respects to other units of the model line to be certified; and
- d) Conducted in accordance with the test methods and procedures specified in Section 7B of this Regulation.

2. A statement shall be made by the manufacturer to the effect that any tolerances for materials or components listed in Section 6H of this Regulation that are different than those specified in the applicable model specifications may not reasonably be anticipated to cause units within the model line to exceed the applicable emission limit.

D. Denial of Certification – Upon denying a certification under this paragraph, the Department or its designee shall give written notice to the manufacturer setting forth the basis for its determination.

E. Quality Assurance Program – For each certified model line, the manufacturer or its designee shall conduct a quality assurance program that, at a minimum, includes the following requirements:

- 1. The manufacturer or authorized representative shall inspect one in every 150 units produced within a model line to determine that the units are within applicable tolerances for all components that affect emissions as listed in Section 6H of this Regulation.
- 2. The manufacturer or authorized representative shall conduct an emission test on a randomly selected unit produced within a model line on the following schedule:

If certification test results were:	If yearly production per model is:	
	<500 total production	=500 total production
70% or less of the PM emission standard	When directed by the State not to exceed one of every 1,000 units	Every 1,000 units or triennially (whichever is more frequent)
30% or less of the PM emission standard	Every 2,000 units	Every 2,000 units or annually (whichever is more frequent)

3. The emission test shall be conducted in conformity with Section 7B of this Regulation. The manufacturer shall notify the State by US mail that an emissions test required pursuant to this paragraph will be conducted within one week of mailing the notification.

4. If the manufacturer uses a different material for the firebox, firebox component, or hydronic heating mechanism than the one used for certification testing, the first test shall be performed before 500 units are produced. The manufacturer shall submit a report of the results of this emission test to the State within 45 days of completion of testing.

F. Approved Test Facilities – An accredited laboratory shall conduct all of the testing, test reporting, and product inspection requirements of this Regulation. Emission testing for certification shall be conducted by an independent contractor who has no conflict of interest or financial gain in the outcome of the testing.

G. Laboratory Accreditation Requirements – In order to qualify for accreditation under this Regulation, a test laboratory shall first be accredited:

1. by the U.S. Environmental Protection Agency (EPA) for testing wood-burning residential space heaters in accordance with 40 CFR Part 60, Subpart AAA, Section 60.535;

2. by the American National Standards Institute (ANSI) to the International Standards Organization (ISO) Standard ISO/IEC Guide 65 General Requirements for Bodies Operating Product Certification Systems; and

3. by a nationally recognized accreditation body to ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories.

4. The nationally recognized accrediting body itself shall be accredited to, and operate under ISO Guide 58 (Calibration and Testing Laboratory Accreditation Systems – General Requirements for Operation and Recognition), and

5. by a nationally recognized accreditation body to the American Society for Testing and Materials (ASTM) Standard Practice D7036-04; Competence of Air Emission Testing Bodies.

H. Laboratory Audits – Laboratory operations and recordkeeping audits by ANSI or another nationally recognized accrediting body shall be conducted at least annually and the audits shall be specific to the laboratory operations directly responsible for conducting the testing, certification, and inspection services

required by this Regulation. Results of the audit will be provided to [state] on March 1st of each year for its review.

I. Re-certification – The Department shall determine the frequency of certification testing of an outdoor hydronic heater or model line, with a minimum frequency of at least once in every five years of the outdoor hydronic heater or model line made available at retail.

J. Change in Design Parameter – A model line must be re-certified whenever any change is made in the design that is presumed to affect the particulate emission rate for that model line. Changes that are presumed to affect particulate emission rates for model lines include:

1. Tolerance changes: any change in the indicated tolerances of any of the following components is presumed to affect particulate emission rates if that change exceeds ± 0.64 cm ($\pm 1/4$ inch) for any linear dimension and ± 5 percent for any cross-sectional area relating to air introduction systems and catalyst bypass gaps unless other dimensions and cross-sectional areas are previously approved by the State;
2. Firebox: dimensions;
3. Air inductions systems: cross-sectional area of restrictive air inlets, outlets and location, and method of control;
4. Baffles: dimensions and location;
5. Refractory/insulation: dimensions and location;
6. Catalyst: dimensions and location;
7. Catalyst bypass mechanism: dimensions, cross-sectional area, and location;
8. Flue gas exit: dimension and location;
9. Door and catalyst bypass gaskets: dimension and fit;
10. Outer shielding and coverings: dimension and location;
11. Fuel feed system;
12. Forced air combustion system: location and horsepower of blower motors and fan blade size.

K. Material changes – Any change in the materials used for the following components is presumed to affect emissions:

1. refractory/insulation;
2. door and catalyst bypass gaskets;
3. for catalyst equipped units – change in catalyst make, model or composition;
4. heat exchanger;
5. heating fluids.

L. Revocation of certification – Certification of an outdoor hydronic heater may be revoked by the Department based on any of the following:

1. The outdoor hydronic heater does not meet the applicable particulate emission limit in Section 4 of this Regulation based on test data from retesting of the original unit used for certification testing;
2. A finding that the certification test was not valid;
3. A finding that the unit does not comply with the labeling requirements detailed in Section 9 of this Regulation;
4. Failure to comply with recordkeeping and reporting requirements detailed in Section 8 of this Regulation;
5. Physical examination showing that more than twenty percent of production units inspected are not similar in all material respects to the model used for certification testing;
6. Failure of the manufacturer to conduct a quality assurance program as detailed in Section 6E of this Regulation.

M. Outdoor hydronic heaters certified to meet the Phase I emission limit, as defined in Sections 4A(1) and 4B(1) of this Regulation, shall be automatically revoked effective March 31, 2010.

7. Testing Requirements

A. Test Facility

1. All emissions testing shall be conducted by an accredited, qualified, and independent testing consultant as defined in Section 6E who has no conflict of interest or financial gain in the outcome of the testing.

2. Manufacturers of the outdoor hydronic heaters shall not involve themselves in the conduct of any emissions testing under Section 7 of this Regulation nor the operation of the unit being tested, once actual sampling has begun.

B. Test Method – Emission tests shall be conducted using one of the following:

1. EPA Method 28 OWHH Test Method, or

2. An alternative method approved by the Department.

C. Btu Rating – Testing to determine MMBtu/hr shall be conducted according to the test method defined in Section 7B of this Regulation. This testing determines the categorization of an outdoor hydronic heater as a commercial or residential-sized unit.

D. Notice to State – The manufacturer of the outdoor hydronic heater shall provide notice to the Department at least 60 days prior to any emission test to allow the Department to have an opportunity to have an observer present during the conduction of the test. If requested by the State, the manufacturer shall pay all expenses to allow for the observation of the test by a State representative.

E. Test Protocols – If there is any deviation from the test method defined in Section 7B(1) of this Regulation, the manufacturer of the outdoor hydronic heater shall provide the Department with a test protocol for approval by the Department in accordance with the testing requirements in Section 7 of this Regulation 45 days prior to the emission testing for certification.

8. Notification by Manufacturers

A. By March 1st each year, and as outdoor hydronic heaters are certified, manufacturers shall provide the following information in writing to any person to whom the manufacturer has distributed or sold or intends to distribute or sell, or for installation:

1. A list of all models of outdoor hydronic heaters that it manufactures; and

2. A list of models that have received certification to meet the particulate matter emission standards and certification requirements set forth in Section 4A and 4B respectively.

B. By March 1st of each year, a copy of all written information necessary to demonstrate compliance of Section 4, Section 6, and Section 8 of this Regulation shall be submitted to the Department.

C. Within one month of promulgation of this Regulation, manufacturers and distributors of outdoor hydronic heaters shall notify all persons who purchase or plan to purchase an outdoor hydronic heater of the requirements in Section 3, Section 4, and Section 5 of this Regulation.

D. Manufacturers must notify owners of installed units of the requirements of this Regulation.

9. Labeling Requirements for Manufacturer

A. *Permanent label – Within three months of promulgation of this Regulation, any outdoor hydronic heater introduced into commerce into [state] shall meet the following label requirements:*

1. *Have a permanent label that shall:*

- a) *Be permanently affixed in a readily visible or accessible location;***
- b) *Be at least 3½ inches long by 3 inches wide;***
- c) *Be made of a material expected to last the lifetime of the unit;***
- d) *Present required information in a manner so that it is likely to remain legible for the lifetime of the unit;***
- e) *Be affixed in such a manner that it cannot be removed from the appliance without damage to the label.***
- f) *The permanent label may be combined with any other label, as long as the required information is displayed, and the integrity of the permanent label is not compromised.***

2. *The permanent label shall display the following information:*

- a) *Month and year of manufacture;***
- b) *Model number or name;***
- c) *Serial number;***

- d) *Thermal output rating in MMBtu/hr;*
- e) *Date of certification;*
- f) *Results of emissions standard testing in grams per hour and lb/MMBtu input and output for respective Phase I and Phase II certification testing as defined in Section 4 of this Regulation.*

B. Required Labeling – each unit shall prominently display the following language on the outdoor hydronic heater:

1. Language stating, “It is unlawful to burn garbage, treated or painted wood, coal, tires, plastic and plastic products, rubber products, yard waste, lawn clippings, glossy or colored papers, construction and demolition debris, plywood, particleboard, salt water driftwood, manure, animal carcasses, asphalt products, waste petroleum products, paints, chemicals or any substance that normally emits dense smoke or obnoxious odors.”
2. For units equipped with catalytic combustors, the following statement shall appear on the permanent label: “This unit contains a catalytic combustor that needs periodic inspection and replacement for proper operation. Consult owner’s manual for further information. It is against the law to operate this unit in a manner inconsistent with operating instructions in the owner’s manual, or if the catalytic element is deactivated or removed.”

C. Temporary Labeling – *All units shall have attached to them a temporary label that shall contain the following:*

1. *A statement indicating the compliance status of the model;*
2. *A graphic representation of the composite particulate matter emission rate as determined in the certification test, or as determined by the State;*
3. *A graphic representation of the efficiency of the model;*
4. *A numerical expression of the heat output range in British thermal units per hour (Btu/hr) rounded to the nearest 100 Btu/hr;*
5. *Statements regarding the importance of proper operation and maintenance;*
6. *The manufacturer and identification of the model.*

7. *The temporary label shall:*

- a) *Not be combined with any other label or information;***
- b) *Be attached to the unit in such a manner that it can be easily removed by the consumer.***

D. *Owner's Manual – Each outdoor hydronic heater offered for sale or lease must be accompanied by an owner's manual that shall contain all the information listed below:*

- 1. *Proper thermal output capacity for matching with the building's thermal demands;***
- 2. *Proper installation information;***
- 3. *Operation and maintenance information;***
- 4. *Wood loading procedures, recommendations on wood selection, and warnings on improper fuels;***
- 5. *Fire starting procedures;***
- 6. *Proper use of air flow devices, if applicable;***
- 7. *Ash removal procedures;***
- 8. *For catalytic models, information pertaining to maintaining catalyst performance, maintenance procedures, procedures for determining catalyst failure or deterioration, procedures replacement, and information on warranty rights.***
- 9. *Persons operating this hydronic heater are responsible for operation of the hydronic heater so as not to cause a nuisance condition. Manufacturer guarantees, however, that proper operation of the outdoor hydronic heater in accordance with manufacturer's operating and maintenance procedures will not create a nuisance condition.***

10. Notice to Buyers

A. No outdoor hydronic heater subject to the requirements of this Regulation shall be offered, sold, offered for retail sale, or leased within the State unless prior to any sales or lease agreement, the seller or dealer provides the prospective buyer or lessee with a copy of the Department's Regulation and a written notice stating that:

1. It is unlawful to burn garbage, treated or painted wood, coal, plastic and plastic products, rubber products, yard waste, lawn clippings, glossy or colored papers, construction and demolition debris, plywood, particleboard, salt water driftwood, manure, animal carcasses, asphalt products, waste petroleum products, paints, chemicals or any substance that normally emits dense smoke or obnoxious odors;
2. Installation of an outdoor hydronic heater may be subject to other applicable State and local stack height and setback requirements;
3. Use of an outdoor hydronic heater that meets the distance and stack height requirements provided in Section 3 of this Regulation may not be adequate in some areas due to terrain that could render the operation of an outdoor hydronic heater to be a nuisance or public health hazard; and
4. Gives the specific results of the average and maximum emission rates of particulate matter for the outdoor hydronic heater in grams per hour per the testing conducted in Section 7 of this Regulation and the average delivered heating efficiency as found in the test reports that were used for certification of the units as detailed in Section 7 of this Regulation.

B. The written notice specified above shall be signed by the buyer or lessee at the time of purchase or lease to indicate receipt of notification of the requirements of this Section. Within seven days of making delivery of the outdoor hydronic heater into the possession of the buyer or lessee, the seller or dealer shall mail or otherwise provide a copy of the signed notice specified above to the Department. Said notice shall contain the name; address; telephone number of both the seller or dealer and the buyer or lessee; the location where the outdoor hydronic heater will be installed; and the make and model of the outdoor hydronic heater.

11. Nuisance Conditions

A. No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration that are injurious to human, plant or animal life or to property, or that unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, toxic, or deleterious emission, either alone or in combination with others.

Appendix A – State Certification Application information

1. State Certification Program: Manufacturers requesting certification shall submit an application to the State. An application shall consist of two complete copies of applications and attachments. The application must be signed by the manufacturer or an authorized representative, and shall contain the following:

- A.** The model name and/or design number.
- B.** Four color photographs of the tested unit, showing the front, back and both sides.
- C.** Engineering drawings and specifications of components that may affect emissions, including specifications for each component listed in Section 6H of this Regulation. Manufacturers may use complete assembly or design drawings that have been prepared for other purposes, but should designate on the drawings the dimensions of each component listed in Section 6H of this Regulation. Manufacturers shall identify tolerances of components of the tested unit listed in Section 6H of this Regulation that are different from those specified in that paragraph, and show that such tolerances may not reasonably be anticipated to cause outdoor hydronic heaters in the model line to exceed the applicable emission limit.
- D.** A statement whether the firebox or any firebox component will be composed of material different from the material used for the emission certification testing and description of any such differences.
- E.** For applications to certify a model line for use with catalytic devices, a statement describing the manufacturers program to ensure consistency in the size of any gap in the catalyst bypass mechanism.
- F.** A written report of the results of such tests, including a detailed description of the operating conditions of the heater during the tests, for review and approval by the Department or its designee, which shall include all documentation pertaining to a valid certification test, including the complete test report and, for all test runs, raw data sheets, laboratory technician notes, calculations, and test results. Documentation shall include the items specified in the applicable test methods.
- G.** For units using catalysts, a copy of the catalytic combustor warranty.
- H.** A statement that the manufacturer will conduct a quality assurance program for the model line that satisfies the requirements of Section 6E of this Regulation.
- I.** A statement describing how the tested unit was sealed by the laboratory after completion of the certification testing.

J. A statement that the manufacturer will notify the certified laboratory, if the application for certification is granted, within thirty days of notification from the State.

K. Statements that the outdoor hydronic heater offered for sale or lease will be:

1. Similar in all material respects to the unit submitted for certification testing, and
2. Will be labeled as defined in Section 9 of this Regulation.

L. A statement that the manufacturer will comply with the recordkeeping and reporting requirements detailed in Section 8 of this Regulation.

M. A written statement estimating the numbers of outdoor hydronic heaters that the manufacturer will produce in the first three production years.

N. A statement that the manufacturer has entered into a contract with an accredited laboratory as defined in Section 6F of this Regulation that will:

1. Conduct random compliance audit testing at no cost to the manufacturer, if the State selects that laboratory to conduct the test, or
2. Pay the manufacturer the reasonable cost of a random compliance audit test, if the State selects any other laboratory to conduct the test.

O. At the beginning of each test run in a certification test series, four photographs of the fuel load: one before and one after it is placed in the unit. One of the photographs shall show the front view of the load and the other shall show the side view.