

# Notice of Agency Rule-making Proposal

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AGENCY: Department of Professional and Financial Regulation, Office of Licensing and Registration, Maine Fuel Board

CHAPTER NUMBER AND TITLE: The Maine Fuel Board proposes to adopt without substantive change the rules of the former Oil and Solid Fuel Board and Propane and Natural Gas Board. The only exception is Chapter 10 of the former Oil and Solid Fuel Board, entitled "Installation of Solid Fuel Burning Equipment." Chapter 10 will be replaced by new Chapter 110 of the Maine Fuel Board, also entitled "Installation of Solid Fuel Burning Equipment." A conversion table showing the renumbering of the former boards' rules as they will be adopted by the Maine Fuel Board appears below:

| <b>(Former) Oil and Solid Fuel Board</b>   |                    |                         |
|--|--------------------|-------------------------|
| Chapter Title  | Old OSFB Chapter # | New MFB Chapter #       |
| Definitions  | 1                  | 101                     |
| Advisory Rulings   | 2                  | 102                     |
| Categories and Responsibilities of Licensure   | 3                  | 103                     |
| Qualifications for Licensure   | 4                  | 104                     |
| Use of Other License Authorities   | 5                  | 105                     |
| Adoption of Standards and Rules  | 7                  | 107                     |
| Modification of Standards  | 8                  | 108                     |
| Installation of Oil Burning Equipment  | 9                  | 109                     |
| Installation of Solid Fuel Burning Equipment   | 10                 | Replaced by new Ch. 110 |
| Chimneys   | 11                 | 111                     |
| <b>(Former) Propane and Natural Gas Board</b>  |                    |                         |
| Chapter Title  | Old PNGB Chapter # | New MFB Chapter #       |
| Definitions  | 1                  | 201                     |
| General Information  | 2                  | 202                     |
| Licensure/Registration Requirements  | 3                  | 203                     |
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| Complaints, Investigations and Adjudicatory Hearings   | 6                  | 206                     |
| Permits for Aboveground and Underground Propane and Natural Gas Storage Facilities and Rooftop Installations | 8                  | 208                     |
| Modification of Standards  | 9                  | 209                     |

PROPOSED RULE NUMBER (*leave blank; assigned by Secretary of State*):

CONTACT PERSON FOR THIS FILING: Cheryl Hersom, Board Administrator, Office of Licensing and Registration, 35 State House Station, Augusta, ME 04333, tel. (207) 624-8605, email [cheryl.c.hersom@maine.gov](mailto:cheryl.c.hersom@maine.gov)

CONTACT PERSON FOR SMALL BUSINESS INFORMATION (if different): same

PUBLIC HEARING (if any): August 11, 2011, 9:00 a.m., Department of Professional and Financial Regulation, 76 Northern Avenue, Gardiner, ME

COMMENT DEADLINE: August 22, 2011

BRIEF \*SUMMARY: New Chapter 110, "Installation of Solid Fuel Burning Equipment," changes Chapter 10 of the former Oil and Solid Fuel Board in the following respects: (1) For units designed with electrical controls for the combustion system, Chapter 110 includes the same electrical requirements that apply to oil-fired units; (2) Heat loss or load calculations are required in connection with the purchase of new heating systems, as is the case for oil-fired units; (3) A new section was added that contains requirements for solid fuel conversion burners, i.e., wood pellet burners that replace oil burners on existing appliances. This section covers everything from requirements for testing to specific requirements necessary to convert an appliance designed for burning oil to burn solid fuel.

All other chapters listed in the conversion table above are being carried forward from the former Oil and Solid Fuel Board and former Propane and Natural Gas Board with no substantive change.

The proposed rules may be downloaded from OLR's web site at [www.maine.gov/professionallicensing](http://www.maine.gov/professionallicensing).

IMPACT ON MUNICIPALITIES OR COUNTIES (if any) None

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STATUTORY AUTHORITY FOR THIS RULE: 32 MRSA §18123(2); PL 2009, c. 344, sec. D-15(2)

SUBSTANTIVE STATE OR FEDERAL LAW BEING IMPLEMENTED (if different):

E-MAIL FOR OVERALL AGENCY RULE-MAKING LIAISON: [jeffrey.m.frankel@maine.gov](mailto:jeffrey.m.frankel@maine.gov)

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\* Check one of the following two boxes.

The above summary is for use in both the newspaper and website notices.

The above summary is for the newspaper notice only. A more detailed summary / basis statement is attached.

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**Please approve bottom portion of this form and assign appropriate AdvantageME number.**

APPROVED FOR PAYMENT \_\_\_\_\_ DATE: \_\_\_\_\_  
(authorized signature)

| FUND | AGENCY | ORG | APP | JOB | OBJT | AMOUNT |
|------|--------|-----|-----|-----|------|--------|
|------|--------|-----|-----|-----|------|--------|

# Rule-Making Fact Sheet

(5 MRSA §8057-A)

AGENCY: Department of Professional and Financial Regulation, Office of Licensing and Registration, Maine Fuel Board

NAME, ADDRESS, PHONE NUMBER OF AGENCY CONTACT PERSON: Cheryl Hersom, Board Administrator, Office of Licensing and Registration, 35 State House Station, Augusta, ME 04333, tel. (207) 624-8605

CHAPTER NUMBER AND RULE TITLE: The Maine Fuel Board proposes to adopt without substantive change the rules of the former Oil and Solid Fuel Board and Propane and Natural Gas Board. The only exception is Chapter 10 of the former Oil and Solid Fuel Board, entitled “Installation of Solid Fuel Burning Equipment.” Chapter 10 will be replaced by new Chapter 110 of the Maine Fuel Board, also entitled “Installation of Solid Fuel Burning Equipment.” A conversion table showing the renumbering of the former boards’ rules as they will be adopted by the Maine Fuel Board appears below:

| <b>(Former) Oil and Solid Fuel Board</b>   |                    |                         |
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| Chimneys   | 11                 | 111                     |
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| Permits for Aboveground and Underground Propane and Natural Gas Storage Facilities and Rooftop Installations | 8                  | 208                     |
| Modification of Standards  | 9                  | 209                     |

STATUTORY AUTHORITY: 32 MRSA §18123(2); PL 2009, c. 344, sec. D-15(2)

DATE AND PLACE OF PUBLIC HEARING: August 11, 2011, 9:00 a.m., Department of Professional and Financial Regulation, 76 Northern Avenue, Gardiner, Maine.

COMMENT DEADLINE: August 22, 2011

PRINCIPAL REASON OR PURPOSE FOR PROPOSING THIS RULE: The principal reason for this rulemaking proceeding is the need to adopt Chapter 110, Installation of Solid Fuel Burning Equipment, to replace obsolete Chapter 10, Installation of Solid Fuel Burning Equipment, of the former Oil and Solid Fuel Board. (2) PL 2009, c. 344, sec. D-15(2).

PL 2009, c. 344, sec. D-15(2), part of the statute that created the Maine Fuel Board, provided that the laws of the former Oil and Solid Fuel Board and Propane and Natural Gas Board "remain in effect until the Maine Fuel Board adopts rules pursuant to this Act." The board continues to administer the rules of the two predecessor boards. To avoid a lapse in those rules caused by adoption of new Chapter 110, the board is formally adopting the former oil and propane/natural gas rules as its own rules without substantive change. See the conversion table above.

BRIEF SUMMARY OF RELEVANT INFORMATION CONSIDERED DURING DEVELOPMENT OF THE RULE (PRIMARY SOURCES): Rules of the former Oil and Solid Fuel Board and Propane and Natural Gas Board; changes in technology and safety standards relating to solid fuel burning equipment; manufacturers' instructions; professional judgment.

ANALYSIS AND EXPECTED OPERATION OF THE RULE: The solid fuel rules as they stand now have been basically unchanged (with some minor exceptions) since the late 1990s and no longer reflect many of the provisions which apply to the safe installation of new equipment using the technology available today. As the oil rules changed with technology, the solid fuel rules did not and thus there also is a great difference in requirements for oil units and solid fuel units, many of which may be connected to the same distribution media (water, steam or warm air) within the same building. These proposed rules have helped bring the installation requirements of the two fuels in line with other, and have been brought about with the cooperation and help from the solid fuel industry. A basic summary of the changes follows.

The electrical requirements in the previous code were few since when that was written, most solid fuel burning equipment did not utilize electrical controls and safeties. The revised rules have the same requirements for units that are designed with electrical controls for the combustion system as those in oil, while still maintaining the original standard for those that don't. Most safety devices such as emergency switches or thermal cut outs were not previously required. The evolution of equipment which has changed many appliances to include electrically controlled combustion systems necessitated these changes.

The requirement for a heat loss or load calculation was added mirroring the requirement for oil to help protect the consumer from purchasing a heating system only to find out that it was not properly sized and cannot meet the demands of the building. When this happens the consumer may be forced into purchasing additional equipment just to be able to keep warm.

The most significant change was the addition of a section on solid fuel conversion burners. These burners are designed to replace the oil burner on an existing appliance so it can be fueled with

wood pellets instead of oil. These burners have been imported from Europe and modified to work with US power requirements and pellet types. Unfortunately these burners were not even on the radar back when the existing rules were implemented and therefore we had to start from scratch. This section took the most time to develop, since there are few existing US national codes which address them. Apparently the European method of testing this type of appliance is to install it in a customer's home and if it doesn't work, then take it out. It was felt that this is not an approach we should take in Maine so a complete section was written covering everything from requirements for testing to specific requirements necessary to convert an appliance designed for burning oil to burn solid fuel.

The rest of the Solid Fuel Rules were updated with language and other minor provisions to cover both the older style low tech appliances still available as well as the newer hi-tech devices.

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All chapters listed in the conversion table above other than Chapter 110 are being carried forward from the former Oil and Solid Fuel Board and former Propane and Natural Gas Board with no substantive change.

FINDINGS UNDER CRITERIA CONTAINED IN EXECUTIVE ORDER 9 FY 11/12: (A) The proposed rules will not negatively impact job growth or creation; (B) There will be no cost to licensees to comply with the proposed rules. The new rules contain no new cost or compliance burdens in comparison to the rules they replace; (C) No other laws or rules address the subject matter of the proposed rules; (D) There are no relevant federal standards.

FISCAL IMPACT OF THE RULE: None

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|--|
| <p><b><i>FOR RULES WITH FISCAL IMPACT OF \$1 MILLION OR MORE, ALSO INCLUDE:</i></b></p> <p>ECONOMIC IMPACT, WHETHER OR NOT QUANTIFIABLE IN MONETARY TERMS:</p> <p>INDIVIDUALS OR GROUPS AFFECTED AND HOW THEY WILL BE AFFECTED:</p> <p>BENEFITS OF THE RULE:</p> |
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*Note: If necessary, additional pages may be used.*

**02 DEPARTMENT OF PROFESSIONAL AND FINANCIAL REGULATION**

**658 MAINE FUEL BOARD**

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**SUMMARY:** The board adopts the rules of the former Oil and Solid Fuel Board and former Propane and Natural Gas Board, except that the board replaces former Chapter 10 of the Oil and Solid Fuel Board, entitled “Installation of Solid Fuel Burning Equipment,” with new Chapter 110, also entitled “Installation of Solid Fuel Burning Equipment.”

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1. The Maine Fuel Board hereby adopts:
  - Rule Chapters 1-5, 7-9 and 11-15 of the former Oil and Solid Fuel Board, including Appendices A-G, and
  - Rule Chapters 1-6 and 8-9 of the former Propane and Natural Gas Board,subject to the provisions that follow.
  
2. The adopted chapters are re-numbered as follows:

| <b>(Former) Oil and Solid Fuel Board</b>   |                    |   |
|--|--------------------|---|
| Chapter Title  | Old OSFB Chapter # | New MFB Chapter #                           |
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| Modification of Standards  | 8                  | 108   |
| Installation of Oil Burning Equipment  | 9                  | 109   |
| Installation of Solid Fuel Burning Equipment   | 10                 | Replaced by new Ch. 110 – see Sec. 6 below. |
| Chimneys   | 11                 | 111   |
| <b>(Former) Propane and Natural Gas Board</b>  |                    |   |
| Chapter Title  | Old PNGB Chapter # | New MFB Chapter #                           |
| Definitions  | 1                  | 201   |
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NOTE: Appendices A-G retain their current lettering.

3. All cross-references to rule chapters in the board's rules are deemed to refer to the chapters as re-numbered in the above table.
4. Chapter 101, Section 1-3 is amended to read:

**BOARD.** ~~State of Maine Oil and Solid Fuel Board~~Maine Fuel Board.
5. All references to Oil and Solid Fuel Board, Propane and Natural Gas Board or "board" in the board's rules are deemed to refer to the Maine Fuel Board.
6. Former Chapter 10 of the former Oil and Solid Fuel Board, "Installation of Solid Fuel Burning Equipment," is replaced by the attached new Chapter 110, "Installation of Solid Fuel Burning Equipment."

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STATUTORY AUTHORITY: 32 MRSA §18123(2); PL 2009, c. 344, sec. D-15(2)

EFFECTIVE DATE:

## **02 DEPARTMENT OF PROFESSIONAL AND FINANCIAL REGULATION**

### **658 MAINE FUEL BOARD**

## **CHAPTER 110 - INSTALLATION OF SOLID FUEL BURNING EQUIPMENT**

Summary: The purpose of this chapter is to specify the proper installation of solid fuel burning equipment in accordance with NFPA #211.

### **1. SCOPE**

This Chapter applies to residential, commercial and industrial installations of solid fuel burning equipment which are connected to a central heating system or water heating equipment.

### **2. NATIONALLY RECOGNIZED TESTING LABORATORY**

All heating, chimney and fireplace equipment, as well as any accessory equipment must be listed and approved by Underwriters' Laboratories or by an independent nationally recognized testing laboratory. Such listing must be in effect at time of installation.

### **3. WORKMANSHIP**

All work shall be conducted, installed, and completed in a neat and professional manner reflecting a minimum level of competent workmanship.

### **4. INSTALLATIONS**

Whenever a furnace, direct-fired water heater, or boiler is installed, the total installation must be brought into compliance with the requirements of NFPA #211 and all other Rules adopted by the Board **BEFORE** the furnace, direct-fired water heater, or boiler is fired. Prior to leaving the installation (whether installed inside or outside any structure) unsupervised, the licensed solid fuel technician shall observe, inspect, and test the equipment to ensure that the installation is operating safely in accordance with the Board's Rules.

### **5. REPAIR OR REPLACEMENT**

Repair of any system or replacement of parts may be made in the same manner as it was in the existing system provided that such repair or replacement is not hazardous. All material, equipment and devices shall be constructed and installed in accordance with their specific purposes and listings.

## **6. MAINTENANCE**

When performing any service on a customer's heating system, the licensee must notify the owner of any code violations and make recommendations to address them.

## **7. HEAT LOSS REQUIREMENT**

1. New Installations. Heat loss system design and system load calculations for all new installations shall be performed prior to the installation. The licensee must retain a copy of the heat loss system design and system load calculations such that it may be produced for inspection upon request of a Board inspector.
2. Replacement Systems. A heat loss and/or load calculation shall be conducted before replacement. The heat loss and/or load calculation may be obtained from the original design plans. The licensee must retain a copy of the heat loss system design or system load calculations and produce it for inspection upon request of a Board inspector.

## **8. APPLIANCES**

1. Solid fuel burning appliances shall be listed and installed in accordance with the terms of their listing.
2. The manufacturer's instructions shall be left with the owner.
3. The installation shall be made by licensed technicians experienced in making such installations.
4. The installation shall be such as to provide reasonable accessibility for: cleaning heating surfaces; removing burners (multi-fuel and/or combination units); replacing motors, controls, air filters, draft regulators, chimney connectors, and other working parts; and adjusting, cleaning, and lubricating parts requiring such attention. This requirement also pertains to stoker-fired units.
5. No combustible material may be placed adjacent to the solid fuel burning appliance with less clearance than permitted by the manufacturer, NFPA #211 or the Board's Rules.
6. Solid fuel burning units shall not be installed where gasoline or any other flammable vapors or gases are likely to be present unless the unit is a sealed combustion system for which the air is taken from the outside.
7. Whenever a solid fuel appliance is installed to work in conjunction with an oil burning appliance, the wiring of the oil burning appliance shall be brought into

compliance with the requirements of the Board's Rules before the unit is fired. The wiring update must include the following where applicable:

- A. Properly rated fuse or breaker;
- B. Properly rated wiring;
- C. Properly installed and located emergency switch;
- D. Properly installed and located thermal electric switch;
- E. Properly installed and located service switch; and
- F. Properly installed and located low water cut-off.

## **9. SOLID FUEL IN GARAGES**

Except as described below, solid fuel burning appliances cannot be installed in any garage unless installed in a separate room either in or attached to the garage and that is accessible only from the outside. For a Major Repair Garage, the fire wall separation shall be two (2) hours. For Minor Repair and Parking Garages, the fire wall separation shall be one (1) hour. All combustion air must be taken from outside the building.

Note: Refer to NFPA #30A for further information.

Exception: Solid fuel burning appliances using sealed combustion systems for which the air for combustion is taken from the outside may be installed in garages of one and two-family dwellings.

## **10. POWER FAILURE BY-PASS AND VALVES**

- 1. A boiler shall be provided with a power failure by-pass and valve in a closed system.
- 2. To prevent overheating conditions during a power failure, a normally open zone valve shall be connected to the largest heating loop in the system above the level of the boiler. A manual by-pass valve shall be installed in case of the failure of the zone valve. This shall be accomplished by installing the zone valve prior to the flow valve and connecting it to the largest loop in the system. The hand valve shall be installed in a loop around the zone valve as illustrated in Figure SF-1.

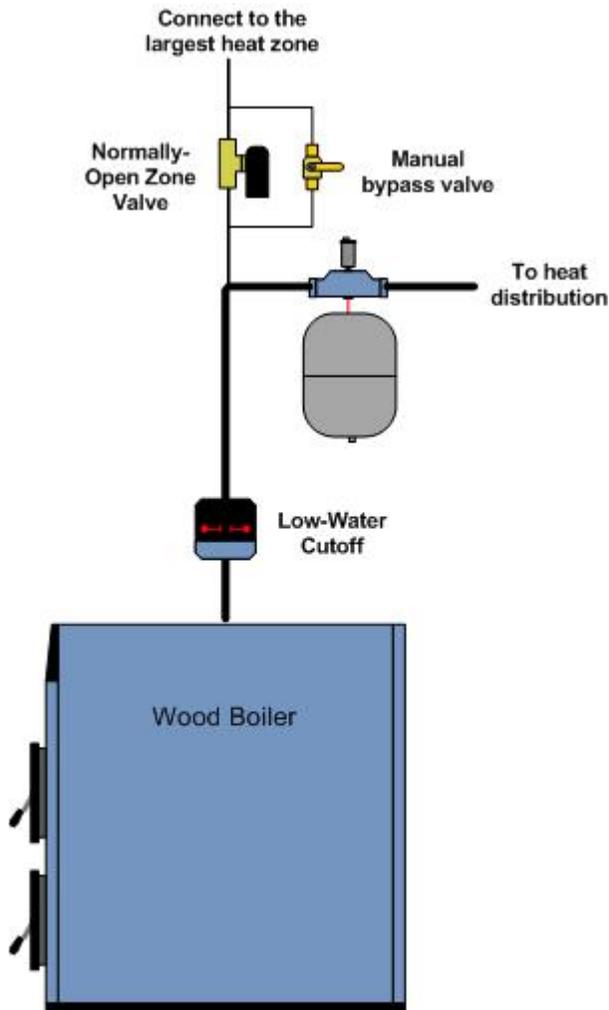


Figure SF-1  
Power Failure By-Pass

3. This section does not apply to listed outdoor solid fuel burning central heating appliances.
4. This section does not apply to solid fuel burning appliances for which the interruption of power will arrest combustion and interrupt fuel supply if the appliance is a residential-type heating appliance as defined in NFPA #211.

## 11. AIR COMBUSTION AND VENTILATION

Solid fuel burning appliances shall be installed in a location and manner to provide adequate ventilation and combustion air supply to permit proper fuel combustion, chimney draft and maintenance of safe temperatures. In cases of buildings which are so tight that normal infiltration does not provide the necessary air, outside air shall be introduced in accordance with manufacturer's instructions.

## 12. ELECTRICAL WIRING AND EQUIPMENT

1. The following standards must be met for the electrical wiring and equipment used in connection with solid fuel burning equipment:
  - A. The electrical wiring and equipment used shall be installed in accordance with NFPA #70 (National Electrical Code);
  - B. Safety control circuits shall be two-wire, one side grounded, having a nominal voltage not exceeding 150 Volts. A safety control or protective device shall be connected so as to interrupt the ungrounded conductor; and
  - C. The control circuit shall be connected to a power supply branch circuit fused at not more than the value appropriate for the rating of any control or device included in the circuit.
2. The following additional standards must be met for solid fuel burning appliances that are automatically fed:
  - A. Electrical Equipment, Required Control Switches
    1. Thermal Electric Switches. A thermal cut-off switch shall be wired into the burner circuit to shut off the burner in the event of a fire at the unit. The switch shall be placed directly above the unit to be fired with the thermal element pointed downwards and shall be placed at the front of the unit. The switch shall be no lower than the highest point of the flue connector where it enters the chimney. The switch shall be wired to shut-off the burner, circulating fan, forced or induced draft fan and any remote fuel delivery device that is not an integral part of the burner. A thermal electric switch is required for each unit in a multi-appliance installation.
    2. On multi-appliance installations the emergency and thermal electrical switches shall be wired, in series through individual unit relays such that, if one thermal switch or the “EMERGENCY” switch is open, the combustion air fan and fuel delivery system will be shut off. This also applies if there are two or more appliance rooms in the same building connected to a common fuel supply system.

Note: An example of wiring for multi-appliance installations is illustrated in Figure SF-2.

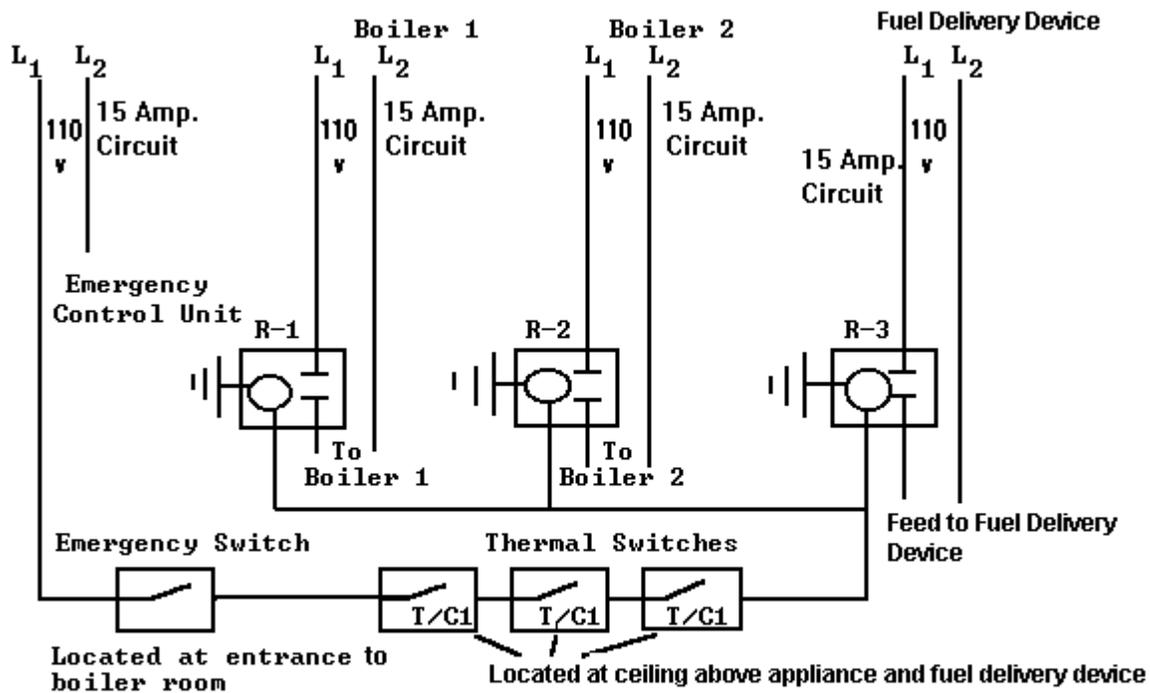


Figure SF - 2

B. Disconnect Switch

A burner disconnect switch shall be placed within three (3) feet of the burner.

C. Emergency Switch(es)

1. An identified switch to shut down the boiler, furnace or water heater in an emergency shall be placed outside of and adjacent to the entrance to the room where the appliance is located.
2. If the entrance to the boiler room is only accessible from outdoors, the emergency switch may be placed inside not more than one (1) foot beyond the door opening.

**13. INSTALLATION OF COMBINATION UNITS (SOLID FUEL/OIL/GAS)**

All multi-fueled appliances shall comply with the applicable provisions of the Board's Rules.

## 14. CONVERSION BURNERS

When an appliance is converted from a liquid or gaseous fuel to a solid fuel, the conversion burner must be listed by Underwriters' Laboratory or by an independent nationally recognized testing laboratory and must comply with all sections of this Chapter.

1. A conversion burner must be tested for use in the individual appliance it is intended to be installed in and shall meet one of the following conditions:
  - A. The conversion burner has been tested by the burner manufacturer and approved by a licensed professional engineer with the proper disciplines;
  - B. The conversion burner has been tested and certified by an independent testing laboratory; or
  - C. The conversion burner has been tested and approved for use by the appliance manufacturer.

Such appliance manufacturer or licensed professional engineer must provide installation and combustion set-up instructions for the appliance.

2. A conversion burner may not be installed into direct vent appliances unless the conversion burner has been approved for use in the appliance by the manufacturer of the appliance.
3. A conversion burner may not be installed into power vented appliances unless the power venter is specifically approved for use with solid fuel.
4. When converting to solid fuel from another fuel source, the installation must comply with all applicable provisions of NFPA #211 and the Board's Rules.
5. Warm air furnace plenums and ductwork must comply with the applicable provisions of NFPA #90B for clearance from combustible materials.
6. In situations where an oil burning appliance is converted to solid fuel using a conversion burner with the possibility of reverting back to oil, the following must be done:
  - A. The fill pipe to the tank must be completely removed and the fitting in the tank plugged liquid tight with a threaded plug;
  - B. The oil line to the boiler or furnace must be capped or plugged at both ends and the thermal valve must be capped or plugged at the tank; and
  - C. All vent lines must remain intact to the outside and remain open.

7. An interlock device shall be installed so that combustion will be arrested if the burner is removed from the heating appliance.
8. Furnaces shall have a 250 degree Fahrenheit limit control installed in the supply plenum not more than ten (10) inches above the top surface of the heat exchanger. The limit control shall extend at least twelve (12) inches into the supply plenum.

## **15. WATER HEATERS**

All piping and safety controls on potable water heaters and potable water connections to boilers and tankless coil heaters shall comply with applicable provisions of the State of Maine Plumbers' Examining Board Laws and Rules.

## **16. LOW WATER CONTROL FOR SOLID FUEL FIRED BOILERS**

Low water protection shall be accomplished in one of two ways:

1. If the opening of an electric circuit will arrest the combustion process, a low water cut-off will be satisfactory if it conforms to the following:
  - A. All solid fuel fired boilers shall be provided with a properly installed and operating low water cut-off. The low water cut-off may be installed in, or attached to, the boiler at the level recommended by the boiler manufacturer, but in no case shall the low water cut-off be installed below the crown sheet. The low water cut-off, when not installed directly in the boiler, may be installed either in the main supply line (vertical riser) as close to the boiler as possible or in a water column of continuous piping attached directly to the boiler.
  - B. The low water cut-off shall be designed and approved for the media in which it is used, either steam or water.
  - C. No valves or other obstructive devices may be installed between the boiler and any safety controls or devices; or
2. If the opening of an electric circuit will not arrest the combustion process, low water protection shall be accomplished in accordance with the appliance manufacturer's instructions.

## **17. SAFETY AND PRESSURE RELIEF VALVES**

1. Steam and hot water boilers shall be equipped with listed or approved steam safety or pressure relief valves that conform to ASME requirements. A shut-off valve may not be placed between the relief valve and the boiler or on discharge pipes between such valves and the atmosphere.

2. All steam safety or pressure relief valves shall terminate in a manner which precludes the possibility of accidental scalding in accordance with ASME.
3. Steam safety or pressure relief valves which terminate in the structure shall terminate 6" to 12" above the floor.
4. No valves or other obstructive devices may be installed between the boiler and any safety controls or devices.

**18. WATER AND STEAM BOILER PIPE SUPPORTS**

1. Piping shall be supported with pipe hooks, metal pipe straps, bands, brackets, or hangers suitable for the size of the piping and shall be of adequate strength and quality and located at appropriate intervals so as to prevent or damp out excessive vibration.
2. Spacing of supports may not be greater than shown in Table 18.
3. Supports, hangers, and anchors shall be installed so as to not interfere with the free expansion and contraction of the piping between anchors. All parts of the supporting equipment shall be designed and installed so that they will not disengage by movement of the supporting piping.

Table 18  
Support of Piping

| Steel Pipe,<br>Nominal<br><b>Size of Pipe</b><br>(Inches) | Spacing of<br>Supports<br>(Feet) | Nominal<br><b>Size of<br/>Tubing</b><br>(Inch O.D.) | Spacing of<br>Supports<br>(Feet) |
|---|----------------------------------|---|----------------------------------|
| 1/2   | 6                                | 1/2   | 4                                |
| 3/4 or 1  | 8                                | 5/8 or 3/4  | 6                                |
| 1 1/4 or larger<br>(horizontal)                           | 10                               | 7/8 or 1  | 8                                |
| 1 1/4 or larger<br>(vertical)                             | every floor<br>level             |   |                                  |

**19. THERMOSTATICALLY-CONTROLLED, HAND-FIRED WARM AIR UNITS**

1. A 250 degree Fahrenheit limit control shall be installed in the supply plenum not more than ten (10) inches above the top surface of the heat exchanger and shall extend at least twelve (12) inches into the supply plenum.
2. The limit control shall automatically prevent operation of the furnace in the event of power failure or shut off when 250 degrees Fahrenheit temperature is reached whether or not the electrical power source is available.
3. A barometric draft control, if required, shall be installed in accordance with the manufacturer's instructions.

**20. EMERGENCY TEMPORARY REPAIR OF WARM AIR HEAT EXCHANGERS**

Emergency temporary repairs of warm air heat exchangers in solid fuel burning appliances are allowed if the safety limitations of the repairs are explained in writing to the owner at the time of the repair.

**21. WELDING OF NON-RESIDENTIAL WARM AIR HEAT EXCHANGERS**

1. The manufacturer shall be consulted to determine whether the welding of a heat exchanger is sound engineering practice. The manufacturer shall provide a written statement as to the feasibility of its heat exchanger being welded. If the heat exchanger is no longer in production, a master licensee shall make a written request to the Board and obtain written approval from the Board before the repair is undertaken.
2. The repair of a heat exchanger by welding shall be performed by a welder in a procedure suitable for the material. A master licensee shall oversee such repairs.
3. The master licensee shall receive guidance from the welder as to the feasibility and acceptability of performing the welding procedure of the metals prior to the repair of any heat exchanger.
4. After completion of said repairs or welding, the master licensee shall obtain a written statement from the welder documenting that the heat exchanger has been welded, tested and is acceptable for use without leakage of after-products.
5. Written documentation of said repairs or welding shall be provided to the owner. The original documentation shall be kept on file by the master licensee who requested the welding. A copy of all the repair documents containing, at a minimum, the following information shall be sent to the Board:
  - A. The name of the owner and location where the repairs were completed;

- B. The name and address of the welder;
  - C. Specific area(s) or location(s) where the repair(s) or welding was performed;
  - D. Written approval of the repair from the manufacturer where applicable;
  - E. Equipment identification information, i.e., name, model number, serial number and gross Btu. rating; and
  - F. The name, address, and license number of the master licensee who requested the repair.
6. Welding repair of a heat exchanger may be performed only once. A subsequent welding repair may not be made to a heat exchanger unless a master licensee makes written request to the Board and obtains written approval from the Board before the repair is undertaken.

AUTHORITY: 32 MRS § 18123(2)

EFFECTIVE DATE: