RELIEF VALVES FOR HOT WATER SUPPLY BOILERS

1. GENERAL

1.01 This section describes A.S.M.E. Standard relief valves, spring loaded types, recommended for installation on hot water supply boilers to prevent excess pressure in the boiler under all conditions of operation.

1.02 This section includes recommendations for minimum and maximum relief valve sizes and installation of these relief valves.

1.03 This section is issued to place relief valves for hot water supply boilers in a separate section. Pressure relief valves for hot water supply boilers are treated in Section 760-540-150, Issue 1, January 1952, Safety Valves for Low Pressure Steam Boilers. It also includes recommendations for installation not mentioned in the replaced section.

1.04 This section applies generally to new installations. In existing installations non-standard relief valves need not be replaced and installed in accordance with this section provided they are of the spring loaded type, are in operative condition, are testable by means of a substantial integral lifting lever, and have no shutoff valve or other obstruction between the boiler and the relief valves or on the discharge side of these valves.

If, however, there is any doubt as to the effectiveness of an existing valve, it is recommended that a new valve be installed as outlined herein.

1.05 Where local and/or state codes, rules, and regulations call for higher requirements than these indicated or implied in this section, such authority takes precedence and its requirements are followed; where those requirements are lower than these in this section, compliance with the provisions of this section is recommended.

2. RECOMMENDED TYPE

2.01 Each hot water supply boiler is provided with A.S.M.E. Standard pressure relief valve set by the manufacturer to release at a pressure not to exceed the maximum allowable working pressure of the boiler.

2.02 Standard pressure relief valves are of the spring loaded type without disc guides below seat and have a substantial integral lifting device. Seats and discs are of non-corrosive material.

2.03 Each standard pressure relief valve has a relief outlet connection.

2.04 The relief valves are selected with a rating in relieving capacity in British Thermal Units per hour at least matching the gross output of the hot water supply boiler in British Thermal Units per hour to prevent excess pressure under all conditions of operation such as improperly prolonged firing, a bottled up system, etc.

3. MINIMUM AND MAXIMUM INLET SIZE

3.01 The size of standard pressure relief valves used in connection with hot water heating boilers is not smaller than 3/4-inch iron pipe size and not larger than 2-inch iron pipe size.

3.02 Where the capacity of a hot water heating boiler requires the size of a relief valve to be larger than 2-inch iron pipe size, two or more relief valves are installed to provide the required capacity. Cross-sectional areas of the openings in the boilers for relief valves, and of the connecting piping when used, are at least equal to the total cross-sectional area of the valves.

4. MARKINGS

4.01 Each standard pressure relief valve is plainly labeled with the manufacturer's name or registered trade mark, the letter "A.S.M.E. Standard," the pressure in pounds per square inch at which it is set to release and the relieving capacity in British Thermal Units per hour. These data are usually stamped or cast on a plate securely attached to the casting so as not to be obliterated in normal service.

5. INSTALLATION

5.01 A pressure relief valve is installed on a hot water supply boiler in the opening provided by the boiler manufacturer for this

purpose. (See Paragraph 3.02.) The purpose of this pressure relief valve is to provide individual protection for the supply boiler and is in addition to the pressure relief device described in Section 760-530-150, Issue 1, January 1952, Relief Valves for Hot Water Storage Tanks.

5.02 The relief outlet is connected with discharge piping, brass or copper, sized full area of this outlet connection. The discharge is run within the building and terminates at an open plumbing fixture where available or within 12 inches of the boiler room floor. This piping pitches down from the valve it serves to prevent trapping of water. If piping is run into the drainage system, it is not connected directly but as an indirect waste. Terminating end of discharge piping is cut at 45 degrees to prevent its being capped or plugged, thus insuring full relief discharge. Where two or more valves are connected to same discharge, the pipe area is not less than area of all valves it serves. This arrangement of the discharge adequately protects personnel and property.

5.03 To further insure functional operation of the relief valves at all times, no shutoff or cutout valves or any means of obstruction are installed between the relief valves and the boiler or on the discharge piping.

6. MEANS FOR TESTING

6.01 The integral lifting lever on the standard pressure relief valve provides a means for manual testing. By hand operating the lever, remotely through the use of a chain, the valve disc is raised and the valve will discharge if in operable condition.