SAFETY VALVES FOR LOW PRESSURE STEAM BOILERS

1. GENERAL

1.01 This section describes A.S.M.E. Standard safety valves, spring loaded types, recommended for installation on low pressure (15 pounds or less) steam boilers used for heating systems or hot water supply systems, to prevent excess pressure in the boiler under all conditions of operation.

1.02 This section includes recommendations for minimum and maximum safety valve sizes and installation of safety valves, and it also applies to boilers operating under vapor conditions.

1.03 This section replaces Section H34.222, Issue 1, March 1944, Safety and Relief Valves. It is issued to place safety valves in a separate section. The replaced section also dealt with pressure relief valves for hot water storage tanks, hot water heating boilers and hot water supply boilers which are now outlined in the following sections:

(a) Section H34.190, Issue 1, January 1952, Relief Valves for Hot Water Storage Tanks.

(b) Section H34.291, Issue 1, January 1952, Relief Valves for Hot Water Heating Boilers.

(c) Section H34.292, Issue 1, January 1952, Relief Valves for Hot Water Supply Boilers.

It also includes additional information on method of installation not mentioned in the replaced section.

1.04 This section applies generally to new installations. In existing installations non-standard safety 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 safety 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 low pressure steam boiler is provided with one or more A.S.M.E. Standard safety valves of the spring pop type and so constructed that the valve cannot be reset to release at a pressure greater than 15 pounds.

2.02 Seals are attached in such a manner as to prevent safety valve from being taken apart without breaking the seal.

2.03 The standard valve has a substantial integral lifting device. The seats and discs are of non-corrosive materials.

3. MINIMUM AND MAXIMUM INLET SIZE

3.01 The inlet size of standard safety valves used on a boiler is not smaller than 3/4-inch iron pipe size and not larger than 4-1/2-inch iron pipe size.

3.02 Where the capacity of a boiler requires the size of a safety valve to be larger than 4-1/2-inch iron pipe size, two or more safety valves are installed to provide the required capacity. Cross-sectional areas of openings in boilers for safety valves, and of connecting piping when used, are at least equal to the total cross-sectional area of the valves.

4. MARKINGS

4.01 Each standard safety valve is plainly labeled with the manufacturer's name or registered trade mark, the letters "A.S.M.E. Standard" and with the pressure in pounds per

square inch at which it is set to blow. These data are usually stamped or cast on a plate securely attached to the casing so as not to be obliterated in normal service.

5. INSTALLATION

5.01 A safety valve is installed on a steam boiler in the opening provided by the boiler manufacturer for this purpose. (See Paragraph 3.02.)

5.02 To insure functional operation of the safety valve at all times, no shutoff and cutout valves or any other means of obstruction are installed between the safety valve and the boiler.

6. DISCHARGE PIPE

6.01 Where a discharge pipe is used, the cross-sectional area is not less than the full area of the safety valve outlet or the total of the outlets of the valves discharging thereinto.

6.02 No shutoff of any description is placed on the discharge pipe between the safety valve and the atmosphere.

6.03 The discharge pipe is run and terminated in such a manner that its end cannot be plugged, capped, frozen or obstructed in any way and so arranged as to properly protect persons and property.

7. MEANS FOR TESTING

7.01 The integral lifting lever on the standard safety valve provides a means for manual testing. By hand operating the lever, the valve disc is raised and the valve will discharge if in operable condition.