(3) In boilerrooms, the bilges shall be protected by a system discharging principally below the floor plates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boiler room taken to the top of the boilers divided by 36. In the event of an elevated boilerroom which drains to the machinery space, the system shall be installed in the engine room bilge and the gross volume shall be taken to the flat on which the boilers are installed.

(4) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the underside of the deck forming the hatch opening divided by 22.

(5) In miscellaneous spaces other than cargo or main machinery spaces, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space divided by 22.

(6) Branch lines to the various spaces other than cargo and similar spaces, shall be as noted in table 76.15–90(a)(6). This table is based on cylinders having discharge outlets and siphon tubes of ¾-inch diameter.

<table>
<thead>
<tr>
<th>Number of cylinders</th>
<th>Nominal pipe size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over</td>
<td>Not over</td>
</tr>
<tr>
<td>2</td>
<td>1½</td>
</tr>
<tr>
<td>4</td>
<td>1¾</td>
</tr>
<tr>
<td>6</td>
<td>1½</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>2½</td>
</tr>
<tr>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>39</td>
<td>3½</td>
</tr>
<tr>
<td>60</td>
<td>4</td>
</tr>
<tr>
<td>104</td>
<td>5</td>
</tr>
</tbody>
</table>

(2) For tanks, the rate of discharge to foam outlets protecting the hazard shall be as set forth in paragraph (b)(1) of this section except that the value of 1 gallon per minute shall be substituted in both cases for the value of 1.6 gallons per minute.

(c) Supply of foam producing material.
(1) There shall be provided a quantity of foam producing material sufficient to operate the equipment at the discharge rate specified in paragraph (b) of this section for a period of at least 3 minutes for spaces other than tanks, and for at least 5 minutes for tanks.

(2) A separate supply of foam agent need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(3) Where pumps are required, the water supply shall be from outside the space protected and shall in no way be dependent upon power from the space protected.

§ 76.17–10 Controls.
(a) The foam agent, its container, and all controls and valves for the operation of the system shall be of an approved type.

(b) The foam agent container and all controls and valves for the operation of the system shall be outside the space protected and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected. The control space shall be as convenient as practicable to one of the main escapes from spaces protected, and shall be marked as required by §78.47–17 of this subchapter. Where pumps are required, it shall not be necessary that they be started from the control space.

(c) Complete, but simple instructions for the operation of the system shall be located in a conspicuous place at or near the controls.

(d) The valves to the various spaces served shall be marked as required by §78.47–15 of this chapter.

§ 76.17–15 Piping.
(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(c) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall be used for no other purpose.

§ 76.17–20 Discharge outlets.
(a) Discharge outlets shall be of an approved type.

(b) [Reserved]

§ 76.17–25 Additional protection required.
(a) In order that any residual fires above the floor plates may be extinguished when a foam system is installed for the protection of spaces other than tanks, at least 2 fire hydrants, in addition to those required for the machinery space by subpart 76.10, shall be installed outside of the machinery space entrances. Such hydrants shall be fitted with sufficient hose so that any part of the machinery space may be reached with at least 2 streams of water, and each hose shall be equipped with an approved combination nozzle, applicator, and self-cleaning strainer as described in §76.10–10(j)(3).

(b) [Reserved]

§ 76.17–90 Installations contracted for prior to November 19, 1952.
(a) Installation contracted for prior to November 19, 1952, shall meet the following requirements:
(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§76.17–5 through 76.17–20, with the exception of §76.17–5(a)(2), insofar as is reasonable