pipes shall be arranged so far as practicable to avoid risk of damage by such cargo.

(9) Valves of the screw-lift type or cocks shall be fitted in such positions on the pipes that any of the fire hoses may be removed while the fire pumps are at work.

(10) The water pipes shall not be made of cast iron, and if made of iron or steel shall be galvanised in accordance with the Performance Standard.

(11) Where wash deck-lines are not self-draining, suitable drain cocks shall be fitted to avoid damage by frost.

(12) In tankers isolation valves shall be fitted in the fire main at poop front in a protected position and on the tank deck at intervals of not more than 40m to preserve the integrity of the fire main system in case of fire or explosion.

(13) In ships of Class I, II and III, ships of Class VII, VIIA and VIII with a gross tonnage of 500 and over, and ships of Class X of 55m in length, and over isolating valves to separate the section of the fire main within the machinery space containing the main fire pump or pumps from the rest of the fire main shall be fitted in an easily accessible and tenable position outside the machinery spaces. The fire main shall be so arranged that when the isolating valves are shut all the hydrants on the ship, except those in the machinery space referred to above, can be supplied with water by a fire pump not located in this machinery space through pipes which do not enter this space. Provided that the Chief Surveyor may permit short lengths of the emergency fire pump suction and discharge piping to penetrate the machinery space if it is impracticable to route it externally provided that the integrity of the fire main is maintained by the enclosure of the piping in a substantial steel casing.

**18. Fire hoses and nozzles**—(1) Fire hoses provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 shall not exceed 18m in length, except that in ships having a moulded breadth of 27m or more fire hoses for exterior locations and for cargo spaces shall not exceed 27m in length and comply with the Performance Standards referred to in clause 2 of this code.

New Zealand ships shall be provided with hose couplings and other fittings complying with NZSS 4505:1977.

(2) Every fire hose provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulation 1989 together with the tools and fittings necessary for its use, shall be kept in a conspicuous position near the hydrants or connections with which it is intended to be used. In interior locations on ships of Class I, II or III fire hoses shall be connected to the hydrants at all times. There shall be complete interchangeability of fire-hose couplings and nozzles.

(3) Except in ships of Class IV, V, VI, IX and X fire hoses provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 shall not be used for any purpose other than extinguishing fire or testing with fire appliances.

(4) Every ship which is provided with power-operated fire pumps shall be provided with nozzles of 12mm, 15mm or 19mm in diameter or as near thereto as possible, and every ship which is provided with a manually-operated fire pump shall be provided with nozzles of 9mm diameter or as near thereto as possible. Larger diameter nozzles may be permitted if the requirements of Codes of Practice relating to the provision of water for fire-fighting purposes are otherwise complied with.

(5) For machinery spaces and exterior locations the diameter of the nozzles shall be such as to obtain the maximum possible discharge from the minimum number of jets of water, and at the pressure prescribed by Codes of Practice from the smallest fire pump permitted by clause 16 of this Code; but the diameter of any nozzles shall not be required to be greater than 19mm.

(6) For accommodation and service spaces, the diameter of the nozzle need not exceed 12mm.

(7) Every dual-purpose nozzle provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 shall be in accordance with the requirements of the Performance Standards for such nozzles referred to in clause 2 of this code.

**19. International shore connection**—Any international shore connection provided in compliance with the Codes of Practice issued under the Shipping (Fire Appliances) Regulations 1989 shall be constructed in accordance with the requirements of the Performance Standards for such a connection as provided under and referred to in Clause 2 of this code.

**20. Fire extinguishers**—(1) Non-portable foam and carbon dioxide fire extinguishers provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 shall be constructed in accordance with the requirements of the Performance Standards for such extinguishers as provided under clause 2 of this code.

(2) Except where specified elsewhere in the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 the capacity of portable fire extinguishers shall be in accordance with the requirements of the Performance Standards for such extinguishers referred to in clause 2 of this code.

(3) Where portable dry powder fire extinguishers are provided in accordance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 either in accommodation and service spaces or in machinery spaces, their number shall not exceed 1/2 of the total number of extinguishers provided in either of those spaces.

(4) Fire extinguishers provided for use in any ship to which the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 apply shall not be of a type which contains an extinguishing medium which either itself or when in use gives off toxic gases in such quantities as to be harmful to persons. The use of carbon dioxide fire extinguishers is not prohibited under this sub-clause but such extinguishers shall not be located in or adjacent to sleeping accommodation.

(5) Every fire extinguisher provided in compliance with Codes of Practice shall be kept fully charged at all times.

(6) In ships of Class I, II, III, VII, VIIA and VIII, a spare charge shall be provided for every portable fire extinguisher provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 except that, for each such fire extinguisher which is of a type which cannot readily be recharged while the ship is at sea, an additional portable fire extinguisher of the same type, or its equivalent, shall be provided instead of a spare charge.

(7) In ships of Classes I, II, III, VII, VIIA and VIII, a spare charge shall be provided for every 45 litre foam fire extinguisher provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989.

(8) For the purposes of the Codes of Practice 135 litres of foam fire extinguisher may be taken as sufficient to provide a 150mm depth of foam over $9m^2$.

(9) One of the portable fire extinguishers intended for use in any space shall be stored near the entrance to that space.

**21. Fire buckets**—Every fire bucket provided in compliance with the Codes of Practice issued under The Shipping (Fire Appliances) Regulations 1989 shall be red in colour and shall be clearly marked with the word "Fire" according to the requirements of the Performance Standard referred to in clause 2 of this code.

**22. Fixed pressure water-spraying systems for machinery spaces**—The design, construction, installation and