combustible material in the space concerned will be well sprayed.

(8) At least 6 spare sprinklers shall be provided for each section.

3. Pressure tank—(1) A pressure tank having a volume equal to at least twice that of the charge of water specified in this sub-paragraph shall be provided. The tanks shall contain a standing charge of fresh water, equivalent to the amount of water which would be discharged in one minute by the pump referred to in clause 4(2) of this Performance Standard and the arrangements shall provide for maintaining an air pressure in the tank such as to ensure that where the standing charge of fresh water in the tank has been used the pressure will be not less than the working pressure of the sprinkler, plus the pressure exerted by a head of water measured from the bottom of the tank to the highest sprinkler in the system. Suitable means of replenishing the air under pressure and of replenishing the fresh water charge in the tank shall be provided.

(2) The pressure tank shall be fitted with an efficient relief valve and with a water gauge glass and a pressure gauge. Stop valves or cocks shall be provided at each gauge connection. Means shall be provided to prevent the inadvertent admission of sea water into the tank.

4. Pumps and piping—(1) An independent power pump shall be provided solely for the purpose of continuing automatically the discharge of water from the sprinklers. The pump shall be brought into action automatically by the pressure drop in the system before the standing fresh water charge in the pressure tank is completely exhausted.

(2) The pump and the piping system shall be capable of

maintaining the necessary pressure at the level of the highest sprinkler to ensure a continuous output of water sufficient for the simultaneous coverage of a minimum area of 280 square metres at the application rate specified in clause 2(6) of this Performance Standard.

(3) The pump shall have fitted on the delivery side a test valve with a short open ended discharge pipe. The effective area through the valve and pipe shall be adequate to permit the release of the required pump output while maintaining the pressure in the system specified in clause 3(1) of this Performance Standard.

(4) The pump shall have a suction direct from the sea which shall be independent of any other suction and which shall be in the space containing the pump. The sea inlet to the pump shall be so arranged that when the ship is afloat it will not be necessary to shut off the supply of sea water to the pump for any purpose other than the inspection or repair of the pump.

5.Pump and tank position—The sprinkler pump and tank shall be situated in a position reasonably remote from any machinery space of Category A and shall not be situated in any space required to be protected by the sprinkler system.

6. Power supply—(1) Not less than two sources of power supply for the sprinkler pump, air compressor and automatic alarm and detection system shall be provided in passenger ships. Where the sources of power are electrical one shall be an emergency source. One supply for the pump shall be taken from the main switchboard and one from the emergency switchboard by separate feeders reserved solely for that purpose. The feeders shall be arranged so as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except insofar as it is necessary to reach the appropriate switchboards and shall be run to an automatic changeover switch situated near the sprinkler pump. This switch shall permit the supply of power from the main switchboard so long as a supply is available therefrom, and be so designed that upon failure of that supply it will automatically change over to the supply from the emergency switchboard. The switches on the main and emergency switchboards shall be clearly labelled and normally kept closed. No other switch shall be permitted in the feeders concerned. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal combustion type engine it shall, in addition to complying with the provisions of clause 5 of this Performance Standard be so situated that a fire in any protected space will not affect the air supply to the machinery.

(2) In cargo ships there shall not be less than two sources of power supply for the sea water pump and automatic alarm and detection system. If the pump is electrically driven it shall be connected to the main source of electrical power, which shall be capable of being supplied by at least two generators. The feeders shall be so arranged as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except insofar as it is necessary to reach the appropriate switchboards. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal combustion engine it shall, in addition to complying with the provisions of paragraph 5 of this Performance Standard be so situated that a fire in any protected space will not affect the air supply to the machinery.

7. Sprinkler-fire main connection and shore supply—Every sprinkler system shall have a connection from the ship's fire main provided with a screw down valve and non return valve at the connection which will prevent a back flow from the sprinkler system to the fire main. In addition, there may be fitted hose couplings with shut off valves and non-return valves situated close to the couplings for the purpose of coupling to a shore supply, but no other external connection shall be fitted. The sprinkler system shall be a self contained unit. Shut off valves for the shore supply and the ship's fire mains connections shall be clearly and permanently marked to show their purpose and shall be capable of being locked in the closed position.

8. Testing of systems—(1) A test valve shall be provided for testing the automatic alarm for each section of sprinklers by a discharge of water equivalent to the operation of one sprinkler. The test valve for each section shall be situated near the stop valve for that section.

(2) Means shall be provided for testing the automatic operation of the pump on reduction of pressure in the system.

(3) Switches shall be provided at one of the indicating positions referred to in clause 1(2)(a) of this Performance Standard which will enable the alarm and the indicators for each section of sprinklers to be tested.

Dated at Wellington this 31st day of October 1989.

W. P. JEFFRIES, Minister of Transport.

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The Shipping (Fixed Pressure Water Spraying Systems) Notice 1989

Pursuant to section 235 of the Shipping and Seamen Act 1952, the Minister of Transport hereby gives the following notice.

Notice

1. Title and commencement—(1) This notice may be cited as the Shipping (Fixed Pressure Water Spraying Systems) Notice 1989.

(2) This notice shall come into force on the 1st day of November 1989.

2. Performance Standard prescribed—The Performance Standard set out in the Schedule to this notice is hereby prescribed for the purposes of the Shipping (Fire Appliances) Regulations 1989.