Type of detector	Maximum floor area per detector	Maximum distance apart between centres	Maximum distance away from bulkheads
Heat	37 m²	9 m	4.5 m
Smoke	74 m²	11 m	5.5 m

The Chief Surveyor may require or permit other spacings based upon test data which demonstrate the characteristics of the detectors.

(6) Electrical wiring which forms part of the system shall be so arranged as to avoid galleys, machinery spaces of Category A, and other enclosed spaces of high fire risk except where it is necessary to provide for fire detection or fire alarm in such spaces or to connect to the appropriate power supply.

3. Design requirements—(1) The system and equipment shall be suitably designed to withstand supply voltage variation and transients, ambient temperature changes, vibration, humidity, shock, impact and corrosion normally encountered in ships.

(2) Smoke detectors required by clause 2(2) shall be certified to operate before the smoke density exceeds 12.5 percent obscuration per metre, but not to operate until the smoke density exceeds 2 percent obscuration per metre. Smoke detectors to be installed in other spaces shall operate within sensitivity limits to the satisfaction of the Chief Surveyor having regard to the avoidance of detector insensitivity or over-sensitivity.

(3) Heat detectors shall be certified to operate before the temperature exceeds 78°C but not to operate until the temperature exceeds 54°C, when the temperature is raised to those limits at a rate less than 1°C per minute. At higher rates of temperature rise, the heat detector shall operate within temperature limits to the satisfaction of the Chief Surveyor having regard to the avoidance of detector insensitivity or oversensitivity.

(4) The permissible temperature of operation of heat detectors may be increased to 30°C above the maximum deckhead temperature in drying rooms and similar spaces of a normal high ambient temperature.

4. Special requirements for periodically unattended machinery spaces—For periodically unattended machinery spaces the fixed fire detection and fire alarm system shall comply with the following additional requirements:

(1) This fire detection system shall be so designed and the detectors so positioned as to detect rapidly the onset of fire in any part of those spaces and under any normal conditions of operation of the machinery and variations of ventilation as required by the possible range of ambient temperatures. Except in spaces of restricted height and where their use is specially appropriate detection systems using only thermal detectors shall not be permitted. The detection system shall initiate audible and visual alarms distinct in both respects from the alarms of any other system not indicating fire, in sufficient places to ensure that the alarms are heard and observed on the navigating bridge and by a responsible engineer officer. When the navigating bridge is unmanned the alarm shall sound in a place where a responsible member of the crew is on duty.

(2) After installation the system shall be tested under varying conditions of engine operation and ventilation.

5. Special requirements for cargo spaces—In cargo spaces the system shall comply with the following additional requirements:

(1) Detectors shall be grouped into separate sections such that a section shall cover not more than one cargo space. Each section shall contain not more than 100 detectors.

(2) The type, number and spacing of detectors shall be to the satisfaction of the Chief Surveyor taking into account the conditions of ventilation and other factors prevailing in the space in which the detectors are installed.

(3) In special category spaces and ro-ro cargo spaces, the system shall be capable of rapidly detecting the onset of fire. After being installed, the system shall be tested under normal ventilation conditions and shall given an overall response time to the satisfaction of the Chief Surveyor.

Dated at Wellington this 31st day of October 1989.

W. P. JEFFRIES, Minister of Transport.

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The Shipping (Miscellaneous Fire Appliances) 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 (Miscellaneous Fire Appliances) 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.

Schedule

Performance Standard for Miscellaneous Fire Appliances

1. Fire buckets—Every fire bucket provided shall be red in colour, shall be clearly marked with the word "FIRE", and shall have a capacity such as to comply with the said codes but in no case less than 8 litres.

2. Pipes—Water pipes shall not be made of cast iron and if made of iron or steel they shall be galvanised.

3. Hoses—Fire hoses shall be made of closely woven flax-canvas rubber, or suitable approved synthetic materials, and shall be provided with couplings, branch pipes, nozzles and other necessary fittings to comply with New Zealand Standard 4505: 1977.

4. Nozzles—(1) Nozzles shall be 12mm, 15mm or 19mm in diameter or as near thereto as possible. Dual purpose nozzles shall be capable of producing alternately, as required, either a water spray suitable for extinguishing oil fires, or a plain water jet and shall incorporate a shut off facility.

(2) Nozzles for portable air foam applicator units shall be capable of producing effective foam, suitable for extinguishing an oil fire, at the rate of at least 1.5 cubic metres per minute.

5. Fire crew outfits—(1) Fire crew outfits provided for use in any ship shall comprise personal equipment as follows:

(a) Protective clothing of material to protect the skin from the heat radiating from the fire and from burns and scalding by steam. The outer surface shall be water resistant.

(b) Boots and gloves of rubber or other electrically non-conducting material.

(c) A rigid helmet providing effective protection against impact and suitable for wearing with breathing apparatus.

(d) An electric safety lamp (hand lantern) of an approved type with a minimum burning-period of 3 hours.

(e) A fire crew axe with an electrically non-conducting handle.

Dated at Wellington this 31st day of October 1989.

W. P. JEFFRIES, Minister of Transport.

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