

not affect the air supply to the machinery and the pump compartment.

(6) When a fixed pressure water spraying system is provided for the machinery spaces in accordance with the Part 1 of this Performance Standard. The pump required for that system may also be used for the purpose of complying with this Part of the Performance Standard.

(7) The sea suction of 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.

(8) The pump suction and discharge valves and any other valves requiring to be operated to bring the pump into operation shall be locked open or be operable from any control position of the system. A pressure gauge shall be provided at such control positions to show when water is available.

(9) A waste valve with a short open ended pipe shall be fitted between the pump discharge and section control valves for testing purposes.

(10) The pipes of the system shall be solid drawn or welded steel or equivalent and they shall be hydraulically tested by the manufacturers to twice the working pressure but not less than 20 bar (2N/mm<sup>2</sup>) and be galvanised internally to prevent corrosion.

(11) Fittings such as self aligning swivel joints and flexible pipes situated within the protected space shall not be readily rendered ineffective by heat and where such fittings are used at least one spare of each type fitted shall be carried.

Dated at Wellington this 31st day of October 1989.

W. P. JEFFRIES, Minister of Transport.

lu18

### **The Shipping (Sample Extraction Smoke Detection 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 (Sample Extraction Smoke Detection 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.

#### **Schedule**

##### **Performance Standard for Sample Extraction Smoke Detection Systems**

**1. General requirements**—(1) Wherever in the text of this Performance Standard the word "system" appears, it shall mean "sample extraction smoke detection system".

(2) Any required system shall be capable of continuous operation, at all times except that systems operating on a sequential scanning principle may be accepted, provided that the interval between scanning the same position twice gives an overall response time to the satisfaction of the Chief Surveyor.

(3) Power supplies necessary for the operation of the system shall be monitored for loss of power. Occurrence of loss of power shall initiate a visual and audible signal at the control panel and the navigating bridge which shall be distinct from a signal indicating smoke detection.

(4) An alternative power supply for the electrical equipment used in the operation of the system shall be provided.

(5) The control panel shall be located on the navigating bridge or in the main fire control station.

(6) The detection of smoke or other products of combustion shall initiate a visual and audible signal at the control panel and the navigating bridge.

(7) Clear information shall be displayed on or adjacent to the control panel designating the spaces covered.

(8) The sampling pipe arrangements shall be such that the location of the fire can be readily identified.

(9) Suitable instructions and spare components shall be provided for the testing and maintenance of the system.

(10) The function of the system shall be periodically tested to the satisfaction of the Chief Surveyor. The system shall be of a type that can be tested for correct operation and restored to normal surveillance without the renewal of any component.

(11) The system shall be designed, constructed and installed so as to prevent the leakage of any toxic or flammable substances or fire extinguishing medium into any accommodation space, service space, control station or machinery space.

**2. Installation requirements**—(1) At least one smoke accumulator shall be located in every enclosed space for which smoke detection is required. However, where a space is designed to carry oil or refrigerated cargo alternatively with cargoes for which a smoke sampling system is required, means may be provided to isolate the smoke accumulators in such compartments from the system. Such means shall be to the satisfaction of the Chief Surveyor.

(2) Smoke accumulators shall be located for optimum performance and shall be spaced so that no part of the overhead deck area is more than 12 metres measured horizontally from an accumulator. Where systems are used in spaces which may be mechanically ventilated, the position of the smoke accumulators shall be considered having regard to the effects of ventilation.

(3) Smoke accumulators shall be positioned where impact or physical damage is unlikely to occur.

(4) Not more than four accumulators shall be connected to each sampling point.

(5) Smoke accumulators from more than one enclosed space shall not be connected to the same sampling point.

(6) Sampling pipes shall be self-draining and suitably protected from impact or damage from cargo working.

**3. Design requirements**—(1) The system and equipment shall be suitably designed to withstand supply voltage variations and transients, ambient temperature changes, vibration, humidity, shock, impact and corrosion normally encountered in ships and to avoid the possibility of ignition of flammable gas/air mixtures.

(2) The sensing unit shall be certified to operate before the smoke density within the sensing chamber exceeds 6.65 percent obscuration per metre.

(3) Duplicate sample extraction fans shall be provided. The fans shall be of sufficient capacity to operate with the normal conditions of ventilation in the protected areas and shall give an overall response time to the satisfaction of the Chief Surveyor.

(4) The control panel shall permit observation of smoke in the individual sampling pipe.

(5) Means shall be provided to monitor the airflow through the sampling pipes and to ensure that as far as practicable equal quantities are extracted from each interconnected accumulator.

(6) Sampling pipes shall be a minimum of 12 millimetres internal diameter except when used in conjunction with fixed gas fire extinguishing systems when the minimum size of pipe should be sufficient to permit the fire extinguishing gas to be discharged within the appropriate time.