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CIRCULAR

To : All Offices
From : General Manager
ISClass
Date : 7 November 2005
Ref : CIR05/0013

RE: FIXED WATER-BASED FIRE-FIGHTING SYSTEM FOR MACHINERY SPACE

We have consolidated some information regarding the fixed water-based fire-fighting system. Kindly read the circular. A sample report is attached for reference in the event that you are called upon to attend such verification. Surveyors are to take note of such requirements and to advise the owners accordingly.

Regards

RE: FIXED WATER-BASED FIRE-FIGHTING SYSTEM FOR LOCAL APPLICATIONS

References:

- A. SOLAS Consolidated Edition 2001.
- B. SOLAS Amendments 2001.
- C. MSC/Circ.913 dated 04 Jun 99.

NEW AMENDMENTS

Application In line with the recommended guidelines in MSC/Circ.913, the amendments to SOLAS Chapter II-2 Regulation 10 calls for an enhancement to the existing fixed fire-extinguishing system by incorporating a fixed water-based or equivalent fire-fighting system for local applications. The following vessels with machinery spaces of category A above 500m³ in volume shall be subjected to the new regulation:

- a. Passenger ships of 2000 GRT & above constructed¹ before 01 Jul 02 (system should be installed not later than 01 Oct 05)
- b. Passenger ships of 500 GRT & above constructed on or after 01 Jul 02
- c. Cargo ships of 2000 GRT & above constructed on or after 01 Jul 02

Local Protection In general, the fixed water-based fire-fighting system should protect the following areas without the need for engine shutdown, personnel evacuation, shutting down of forced ventilation fans or sealing of the affected spaces:

- a. Fire hazard portions of internal combustion machinery used for ship's main propulsion and power generation
- b. Boiler fronts
- c. Fire hazard portions of incinerators
- d. Purifiers for heated fuel oil

GENERAL OPERATING REQUIREMENTS

System Activation For periodically manned machinery spaces, the fixed water-based fire-fighting system shall be equipped with both automatic and manual release capabilities. For continuously manned machinery spaces, only manual release capability is required. Activation of the system shall be accompanied with a visual and distinct audible alarm in the protected space and continuously manned stations. The system may be divided into sections with the respective distribution valves easily accessible from

¹ For the purpose of this circular, the term "constructed" shall refer to the laying of the ship's keel.

positions outside the spaces to be protected. The operation controls shall be located at easily accessible locations inside and outside the protected space. The controls inside the space shall not be liable to be cut off by a fire in the protected areas.

System Maintenance Planned maintenance shall be in place to prevent the nozzles from being clogged by impurities in the water or corrosion of piping, nozzles, valves and pumps.

PRINCIPAL SYSTEM REQUIREMENTS

Nozzle Arrangement The system shall be fitted with spraying nozzles of an approved type. The number and arrangement of the nozzles shall ensure an effective minimum average distribution of water of 5 litres/m²/min in the spaces to be protected (see Fig. 1). The nozzles shall be fitted above the bilges, tank tops, areas over which fuel oil is likely to spread, as well as above other specific fire hazards in the machinery spaces.

Pump Requirements The system shall be kept charged at the necessary pressure. The pump supplying the water shall be activated automatically by a pressure drop in the system. The pump shall be capable of simultaneously supplying the necessary pressure to all sections of the system in any one compartment to be protected. The pump and its control shall be installed outside the space or spaces to be protected. It shall not be possible for a fire in the space or spaces protected by the water-spraying system to put the system out of action. The pump may be driven by independent internal combustion machinery located such that a fire in the protected space will not affect the air supply to the machinery. If the pump depends on the power supplied by an emergency generator, the generator shall be able to start automatically in the event of a main power failure so that power to the pump is immediately available.

Minimum Operating Duration The system shall be available for immediate use and capable of continuously supplying water-based medium for at least 20 minutes in order to suppress or extinguish the fire and to prepare for the discharge of the main fixed fire-fighting system within that period of time. The system shall also be capable of fire suppression with forced ventilation fans running and supplying air to the protected area. Alternatively, a method of automatically shutting air supply fans upon release of the system should be provided to ensure that the fire-fighting medium is not dispersed.

Associated Components The system and its components shall be able to withstand the ambient temperature changes, vibration, humidity, shock, impact, clogging and corrosion normally encountered in machinery spaces. Components within the protected spaces shall be able to withstand the elevated temperatures that would occur during a fire. The electrical components of the pressure source for the system should have a minimum rating of IP 54.

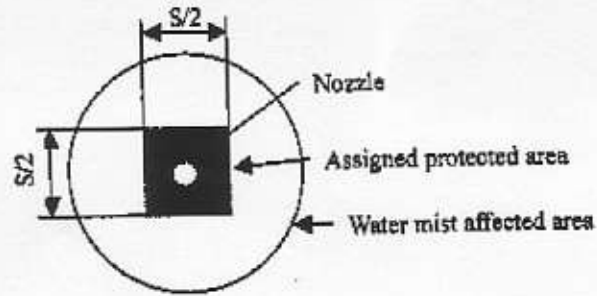
OTHER MISCELLANEOUS REQUIREMENTS

Warning Notice Where automatically operated systems are installed, a warning notice shall be displayed outside each entry point stating the medium used and the possibility of automatic release.

Operating Instructions Operation instructions for the system shall be clearly displayed at each operating position.

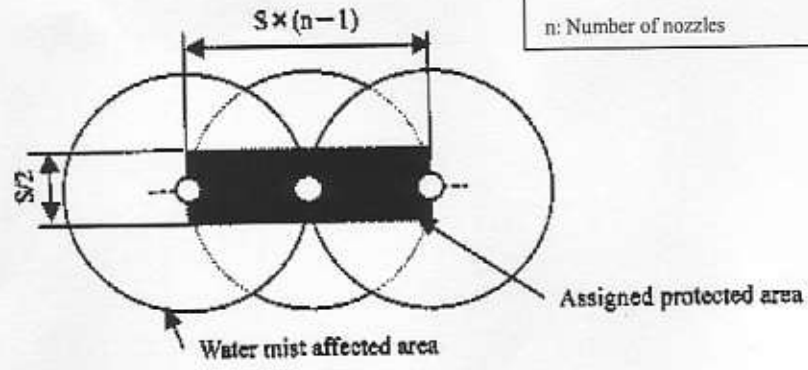
Spares, Operating & Maintenance Manuals Spares components and the relevant manuals shall be provided in accordance with the recommendations by the manufacturer.

Fig.1 - Assigned protected area and water mist affected area in each nozzle arrangement

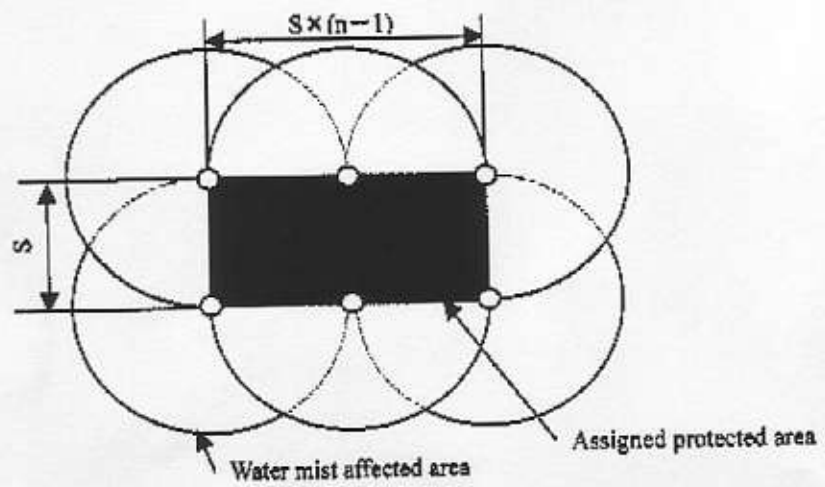


(a) Single nozzle arrangement

S: Maximum allowable spacing between nozzles
n: Number of nozzles



(b) Single row nozzle arrangement



(c) Grid nozzle arrangement

Statutory Survey Report

IMO Number 8888888	Class No 888888	Survey Report No 05-SGP-8888	Total pages 3
Ship Name RIVAL		<input type="checkbox"/> Changed	Port of Registry FUNAFUTI
GRT (TM69) 888888	SOLAS Tonnage 888888	Call Sign/Off No TV888	
Ship Notations <input type="checkbox"/> H★NB <input checked="" type="checkbox"/> H★CE		<input type="checkbox"/> (ESP)	<input type="checkbox"/> M★NB <input checked="" type="checkbox"/> M★CE
Ship's Type GAS CARRIER			
Owner KO-VIN		<input type="checkbox"/> Changed	
Place of Survey SINGAPORE		Date of First Visit 5 NOVEMBER 2005	Date of Last Visit 5 NOVEMBER 2005

Statutory Certificate														
Type	Due Date DD/MM/YY	Issued	Extension	Supplementary Record	Exemption Certificate	Non- Convention	Conditional Certificate	Type of Survey					Endorsed	
								INS	RS	INT	AS	OS		
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The undersigned have carried out the above surveys and found the ship to be in compliance with the relevant provisions of the applicable Conventions / Codes subject to the recommendations in Form Notes, if any.

	NA	Form Notes	Status			
			Newly setup	Remain unchanged	Partly changed	Closed
Recommendation:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memorandum:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature	Signature	PATRICK
Name	Name	PATRICK
Surveyor ID	Surveyor ID	ISC-888 Office SINGAPORE

Legends

INS	: Initial Survey	ISPP	: Sewage Pollution Prevention	PS	: Periodical Survey	CHE	: Chemical	INT	: Intermediate Survey
MSC	: Maritime Labour Convention	PL	: Port State Control	AS	: Annual Survey	SC	: Safety Construction		

Statutory Survey (*Class / *Statutory)

Class No 888888	Survey Report No 05-SGP-8888	<input type="checkbox"/> Attachment to Form Class <input checked="" type="checkbox"/> Attachment to Form Stat
<input type="checkbox"/> Recommendations	<input type="checkbox"/> Memorandum	<input checked="" type="checkbox"/> Information

Page No. 2

The ship has complied with SOLAS Chapter II-2 Regulation 10.5.6.2 for the installation of an approved fixed water-based fire fighting system.

- The End -

Statutory Survey Report

Class No 888888		Survey Report No 05-SGP-8888		Page No 3	
<input type="checkbox"/> Hull	<input type="checkbox"/> Machinery	<input type="checkbox"/> CG	<input type="checkbox"/> Ref	<input type="checkbox"/> Others	<input checked="" type="checkbox"/> Stat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Safety Equipment:

The ship has installed a fixed local application fire extinguishing system in accordance to SOLAS II-2 Regulation 10.5.6.2. The findings are as follows:

1. The system is automatically released
2. There are visual and audible alarms
3. The control is located at the Fire Control station outside the engine room
4. Plan maintenance is incorporated in the Plan Maintenance Schedule
5. Installed according to approved drawings dated 5 November 2005
6. Warning notices, operating instructions and spares, operating and maintenance manuals are available

- The End -