



**Department of Economic Development
Isle of Man Ship Registry Consultation:
Proposed update to legislation implementing
SOLAS II-2:**

Construction – Fire protection, fire detection and fire extinction

This consultation paper sets out the Isle of Man Government's proposals to make new Regulations to give effect to the latest version of Chapter II-2 of the International Convention for the Safety of Life at Sea 1974 "SOLAS Chapter II-2".

The Regulations give effect to SOLAS Chapter II-2 up to and including amendments adopted by IMO Resolution MSC.365(93) on 22 May 2014 which come into force on 1 January 2016.

We would be grateful for any comments on the proposed implementation of SOLAS Chapter II-2 as detailed in this consultation paper (preferably by email) to:

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This consultation will close at 5.00pm on 31st December 2015

This consultation contains the following:

Section 1 Overview of the draft Regulations Pages 1 - 4

Section 2 Interpretation of SOLAS Chapter II-2 requirements Pages 5 & 6 and Annex 1-4; and

Section 3 The maintenance and inspection of fire protection systems and appliances - MSN ***

SECTION 1

Overview of the draft SOLAS II-2 Regulations

1. Introduction

On 1 July 2002, a comprehensive set of requirements for fire protection, fire detection and fire extinction on board ships entered into force as a new revised SOLAS Chapter II-2, incorporating technological advances in fire detection and extinction as well as lessons learned from fire incidents over the years.

The requirements are designed to ensure that fires are first of all prevented from occurring; secondly, that any fires are rapidly detected; and thirdly; that any fire is contained and extinguished. Designing ships to ensure easy evacuation routes for crew and passengers are a key element of SOLAS Chapter II-2.

It is proposed to have two sets of new Regulations which revoke and replace existing Regulations which give effect to SOLAS Chapter II-2, and bring the Isle of Man's SOLAS Chapter II-2 requirements up to date. The new Regulations are expected to come into operation on 21 March 2016.

The two new Regulations are summarised as follows –

(1) The Merchant Shipping (SOLAS Chapter II-2)(Ships built 1 September 1984 to 30 June 2002) Regulations 2016

- (a) Replace existing provision for Manx ships built on or after 1 September 1984 up to and including 30 June 2002;
- (b) Subject to paragraph (c), the Regulations apply to:
 - (i) all Manx ships, wherever they may be, engaged on international voyages; and
 - (ii) foreign ships whilst they are within the territorial waters of the Island.
- (c) The Regulations do **not** apply to:
 - (i) ships of war and troopships;
 - (ii) ships not propelled by mechanical means;
 - (iii) wooden ships of primitive build;
 - (iv) pleasure vessels not engaged in trade;
 - (v) fishing vessels;
 - (vi) ships to which the Merchant Shipping (High-Speed Craft) Regulations 1998 (SD260/98) apply; and
 - (vii) ships to which the Merchant Shipping (MODU Code) Regulations 1997 (SD274/97) apply.
- (d) Require ships to comply with SOLAS Chapter II-2 up to and including amendments adopted by Resolution MSC.57(67) on 5 December 1996 and which came into force on 1 July 1998.

(2) The Merchant Shipping (SOLAS Chapter II-2) Regulations 2016

- (a) Replace existing provision for Manx ships built on or after 1 July 2002;
- (b) Subject to paragraph (c), the Regulations apply to:
 - (i) all Manx ships, wherever they may be, engaged on international voyages; and
 - (ii) foreign ships whilst they are within the territorial waters of the Island.

- (c) The Regulations do **not** apply to:
 - (i) ships of war and troopships;
 - (ii) ships not propelled by mechanical means;
 - (iii) wooden ships of primitive build;
 - (iv) pleasure vessels not engaged in trade;
 - (v) fishing vessels;
 - (vi) ships to which the Merchant Shipping (High-Speed Craft) Regulations 1998 (SD260/98) apply; and
 - (vii) ships to which the Merchant Shipping (MODU Code) Regulations 1997 (SD274/97) apply.
- (d) Require ships to comply with SOLAS Chapter II-2 up to and including amendments adopted by Resolution MSC.365(93) on 22 May 2014, which comes in to force on 1 January 2016; and
- (e) Contain a requirement for ships built on or after 1 September 1984 up to and including 30 June 2002 to comply with those parts of SOLAS Chapter II-2 Regulations 1.2.2.2, 1.2.2.4 and 1.2.2.5 as apply in relation to a ship of its description.

The main provisions of the new Regulations are:

1. Company's responsibility

A Company is required to ensure a ship complies with the Regulations.

In both Regulations, 'Company' means "the owner of a ship to which the Regulations apply or any other organisation or person such as the manager, or the bareboat charterer, who has assumed responsibility for operation of the ship from the owner and who, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed on the Company by the SOLAS Convention."

2. Offences and penalties

Both Regulations contain provision relating to offences and the penalty for non-compliance.

A company which fails to comply with the Regulations commits an offence and is liable on conviction on information to custody for not more than 2 years, a fine, or both; and on summary conviction to a fine not exceeding £5,000.

3. Provisions relating to offences

- (1) It is a defence for a person charged under the Regulations to show that he or she took all reasonable steps to avoid the commission of the offence.
- (2) If the commission by any person of an offence under the Regulations is due to the act or default of some other person, that other person is guilty of the offence and a person may be charged with and convicted of the offence by virtue of regulation 6 of the Regulations whether or not proceedings are taken against the first-mentioned person.
- (3) If a body corporate is guilty of an offence under the Regulations, and that offence is proved to have been committed with the consent or connivance of, or to have been attributable to any neglect on the part of a director, manager, secretary or other similar officer of the body corporate, or any

person who was purporting to act in any such capacity, he or she, as well as the body corporate, is guilty of that offence and is liable to be proceeded against and punished accordingly.

4. Requirement to comply with SOLAS Chapter II-2

Manx ships to which the Regulations apply must comply with the requirements of SOLAS Chapter II-2 as appropriate to a ship of its description.

5. Validity of approval, exemption, equivalent arrangements, waivers

An approval, exemption, equivalent arrangement or a waiver is only valid if it is in writing and if any conditions stated in it are complied with.

6. Foreign ships

A foreign ship in the territorial waters of the Island must comply with such of the requirements of SOLAS Chapter II-2 as apply in relation to a ship of its description.

7. Inspection of a foreign ship

A foreign ship in a port of the Island may be subject to inspection.

8. Provisions relating to detention

If an inspector carries out an inspection on a foreign ship in a port of the Island, and certificates required by regulation 12 or 13 of SOLAS Chapter 1 are not produced, have expired or ceased to be valid, the ship may be detained.

A ship may also be detained if the inspector has clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate; or the ship and its equipment are not in compliance with the provisions of SOLAS Chapter 1 regulation 11(a) and (b).

9. Approvals, type approvals, equivalent arrangements, exemptions and waivers

There are various circumstances in the SOLAS II-2 text where approval is required and certain situations where equivalent arrangements, exemptions and waivers may be granted.

a. Approvals

Where SOLAS Chapter II-2, or any part of a code applied by SOLAS Chapter II-2, requires anything to be approved by the Administration, it must be approved by the Ship Registry or a Recognised Organisation.

b. Type approvals

SOLAS II-2 and the International Code for Fire Safety Systems require certain equipment to be type approved. Further information on type approval is stated in Section 2 and Annex 3 of this consultation paper.

c. Equivalent arrangements, exemptions and waivers

The Ship Registry may permit equivalent arrangements, exemptions and waivers on a case by case basis, if it is satisfied the arrangements meet the requirements of SOLAS II-2.

SECTION 2

Interpretation of SOLAS Chapter II-2 requirements

SOLAS Chapter II-2 requires the ship's Flag Administration to determine how a ship must implement certain requirements. For example, SOLAS Chapter II-2 refers to things being done "to the satisfaction of the Administration" or gives the Administration the ability to permit a method of construction, a particular material or determine a set of guidelines.

Within SOLAS Chapter II-2 there are over 100 of these circumstances and they have been set out in the Annexes to this consultation paper. As a general rule these will either be decided on a case by case basis, delegated to a Recognised Organisation or the Ship Registry has specified its own interpretation. For passenger ships there are many additional areas and these have been set out in Annex 4.

The Annexes* are briefly described as follows -

Annex 1 General interpretations and permissions

Where SOLAS II-2 requires a decision to be made by the Ship Registry, and an interpretation has been made or permission has been given, this is stated in Annex 1.

Annex 2 Delegation to the ship's Recognised Organisation

Annex 2 lists the decisions which have been delegated to the ship's Recognised Organisation. The Organisations authorised to act as recognised organisations by the Ship Registry are listed in MSN 020 which is available on the Ship Registry's website www.gov.im/ded/shipregistry

Annex 3 Type approvals

SOLAS II-2 and the International Code for Fire Safety Systems require certain equipment to be type approved. The list of equipment and the relevant type approval standards are stated in Annex 3.

All equipment requiring type approval must be accompanied by a type approval certificate issued by -

- a Recognised Organisation listed in MSN 20; or
- a Recognised Organisation on behalf of a national Administration; or
- the Ship Registry

If the equipment has been issued with a type approval certificate by another organisation it may only be used or fitted with the consent of the Ship Registry.

Equipment which has been certified under the Marine Equipment Directive (MED) is acceptable to be used on Isle of Man registered vessels, although it is not a mandatory requirement that equipment has been certified under the MED.

Except when it is a Convention requirement, individual test certificates are not required in addition to the type approval certificate.

Annex 4 Passenger ships

It is the Ship Registry's policy to work closely with the ship's Recognised Organisation during the plan approval and construction stage when a passenger ship is being constructed to the Isle of Man's requirements. This is because passenger ships are not

necessarily built to a standard design, and SOLAS has additional specific areas for passenger ships which the Ship Registry must make a decision on. These additional areas are stated in Annex 4 of this consultation paper.

Periodic inspection, testing and maintenance of fire protection systems

Over the last few years a number of new guidelines have been published by the International Maritime Organisation relating to the periodic inspection, testing and maintenance of fire protection systems. These guidelines will be adopted by the Ship Registry and are included in MSN***, which is attached separately to this consultation paper. MSN*** will be published at the same time as the new SOLAS II-2 Regulations and will replace the existing requirements which are stated in Industry Circular 6.

*References to SOLAS II-2 page numbers in the Annexes are from SOLAS consolidated edition 2014. The Regulations have only been summarised and the SOLAS text should be referred to for the full regulation.

Annex 1 General interpretations and permissions

SOLAS consolidated edition 2014 Regulation	Summary of the regulation	IOM Ship Registry's requirements
Reg 1.6.5 Page 124 combination carriers	Combination carriers constructed before, on or after 1 July 2002 shall not carry cargoes other than oil unless all cargo spaces are empty of oil and gas-freed or unless the arrangements provided in each case have been approved by the Administration taking into account the guidelines developed by the Organization.	The Ship Registry must be requested on a case-by-case basis to approve the arrangements in accordance with the guidelines for inert gas systems (MSC/Circ.353), as amended by MSC/Circ.387.
Reg 1.6.6 Page 124 chemical tankers and gas carriers	Chemical tankers and gas carriers shall comply with the requirements for tankers, except where alternative and supplementary arrangements are provided to the satisfaction of the Administration, having due regard to the provisions of the International Bulk Chemical Code and the International Gas Carrier Code, as appropriate.	Any proposals for the alternative and supplementary arrangements must be sent to the Ship Registry for approval.
Reg 4.2.1.4 Page 131 cargo ships	In cargo ships the use of fuel having a lower flashpoint than otherwise specified, for example crude oil, may be permitted provided that such fuel is not stored in any machinery space and subject to the approval by the Administration of the complete installation.	It is permitted for cargo ships to use fuel having a lower flashpoint than specified provide the fuel is not stored in any machinery space. The RO is delegated to approve the complete installation.
Reg 4.2.2.3.5.1 Page 131 all ships	Termination of sounding pipes in the machinery space.	It is permitted for sounding pipes to terminate in machinery spaces provided the requirements stated in SOLAS II-2 Reg4 have been met.
Reg 4.2.2.3.5.2.2 Page 132 cargo ships	The Administration may permit the use of oil-level gauges with flat glasses and self-closing valves between the gauges and fuel tanks.	The use of oil-level gauges with flat glasses and self-closing valves between the gauges and fuel tanks are permitted.
Reg 4.2.2.5.1 Page 132 all ships	Oil fuel piping – restricted use of flexible pipes	If flexible oil fuel pipes are to be considered permission must be requested by the Ship Registry which will only be granted if it is considered to be strictly necessary. If approval is given flexible pipes and end attachments must be of approved fire-resisting materials in accordance with ISO 15540:1999, Fire resistance of hose assemblies - test methods and ISO 15541:1999, Fire resistance of hose assemblies - requirements for the test bench. Flexible hoses: a) must not be used in high pressure fuel injection systems;

		<p>b) must be installed and replaced in accordance with the manufacturer's instructions;</p> <p>c) must allow sufficient free movement to be provided to accommodate vibration and avoid contact with any structure; and</p> <p>d) are not permitted to have hose clamps and similar types of attachments.</p>
Reg 4.2.2.5.6 Page 133 all ships	Oil fuel piping – through accommodation and service spaces	If it is intended to convey oil and combustible liquids through accommodation and service spaces permission must be requested from the Ship Registry which will only be granted if it is considered to be strictly necessary.
Reg 4.5.1.1 Page 134 Tankers <25,000 tonnes deadweight	Cargo areas of tankers. Separation of cargo oil tanks – lower portion of the pump-room may be recessed into machinery spaces	A recess in excess of the height stated in Reg4.5.1.1 is permitted, but must not exceed one half of the moulded depth above the keel.
Reg 5.1.3 Page 135 tankers	The Administration may permit main cargo control stations, control stations, accommodation and service spaces forward of the cargo tanks, slop tanks and spaces which isolate cargo and slop tanks from machinery spaces, but not necessarily forward of oil fuel bunker tanks or ballast tanks.	It is permitted for main cargo control stations, control stations, accommodation and service spaces to be forward of the cargo tanks, slop tanks and spaces which isolate cargo and slop tanks from machinery spaces, but not necessarily forward of oil fuel bunker tanks or ballast tanks.
Reg 5.1.3 Page 135 tankers	Where deemed necessary for the safety or navigation of the ship, the Administration may permit machinery spaces containing internal combustion machinery not being main propulsion machinery having an output greater than 375 kW to be located forward of the cargo area provided the arrangements are in accordance with the provisions Reg 5.1.3.	Where deemed necessary for the safety or navigation of the ship, it is permitted for machinery spaces containing internal combustion machinery not being main propulsion machinery having an output greater than 375 kW to be located forward of the cargo area provided the arrangements are in accordance with the provisions of Reg. 5.1.3.
Reg 5.1.4.4 Page 135 combination carriers	The Administration may permit cargo oil lines to be placed in special ducts provided these are capable of being adequately cleaned and ventilated to the satisfaction of the Administration.	It is permitted for cargo oil lines to be placed in special ducts under the circumstances stated in Reg 5.1.4.4, provided the RO is satisfied that the ducts are capable of being cleaned and ventilated.
Reg 5.2.2 Page 136 tankers	Access doors in boundary bulkheads facing the cargo area or within the 5m limits specified in paragraph 5.2.1.	Access doors are permitted in boundary bulkheads facing the cargo area or within the 5m limits specified in Reg. 5.2.2.
Reg 5.5.2.1 Page 138 chemical tankers and gas carriers	The requirements for inert gas systems contained in the FSS Code need not be applied to: .1 chemical tankers and gas carriers when carrying cargoes described in regulation 1.6.1, provided that they	The Ship Registry adopts Resolution A.567(14) Regulation for inert gas systems on chemical tankers.

	comply with the requirements for inert gas systems on chemical tankers established by the Administration, based on the guidelines developed by the Organization; or.....	
Reg 8.2 Page 148 All ships	Protection of control stations outside machinery spaces. At the discretion of the Administration, the requirements of Reg 8.2 need not apply to control stations situated on, and opening onto, an open deck or where local closing arrangements would be equally effective.	The Ship Registry does not require the requirements of Reg 8.2 to apply to control stations under the circumstances stated in Reg 8.2.
Reg 8.3.1 Page 149 All ships	Release of smoke from machinery spaces. The provisions of Reg 8.3.1 shall apply to machinery spaces of category A and, where the Administration considers it desirable, to other machinery spaces.	In this circumstance the Ship Registry defines 'desirable' as meaning any machinery space which is critical to the safe operation of the ship.
Reg 9.5.1.1 Page 172 cargo ships	Protection of openings in machinery space boundaries. The provision of this paragraph shall apply to machinery spaces of category A and, where the Administration considers it desirable, to other machinery spaces.	In this circumstance the Ship Registry defines 'desirable' as meaning all machinery space boundaries.
Reg 10.2.2.3.2.2 All ships Page 179	Access to the emergency fire pump. No direct access shall be permitted between the machinery space and the space containing the emergency fire pump and its source of power. When this is impracticable, the Administration may accept an arrangement as described in Reg 10.2.2.3.2.2	This will be accepted on a case by case basis in accordance with the requirements stated in Reg.10.2.2.3.2.2.
Reg 10.4.1.4 Page 182 All ships	The use of steam as a fire-extinguishing medium in fixed fire-extinguishing systems.	Permission must be sought from the Ship Registry in order to permit the use of steam as a fire-extinguishing medium in fixed fire-extinguishing systems. Permission will only be granted under the circumstances stated in Reg. 10.4.1.4.
Reg 10.5.2.2.2 Page 183 All ships	Additional fire-extinguishing arrangements. For smaller spaces of cargo ships the Administration may consider relaxing this requirements stated in 10.5.2.2.2	The Ship Registry will consider relaxing this on a case by case basis.
Reg 10.7.1.2 Page 186	Fixed gas fire-extinguishing systems for general cargo. Where it is shown to the satisfaction of the Administration that a	The Ship Registry will determine this on a case by case basis.

	passenger ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of paragraph 7.1.1 and also in ships of less than 1,000 gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.	
Reg 10.10.2.4 Page 188 All ships	Number of fire-fighter's outfits	The Ship Registry may require additional fire-fighters outfits in cases where ships are constructed in such a manner or are of such complexity that additional fire fighter's outfits are required for safety reasons.
Reg 13.3.1.4 Page 193 All ships	If a radiotelegraph station has no direct access to the open deck, two means of escape from, or access to, the station shall be provided, one of which may be a porthole or window of sufficient size or other means to the satisfaction of the Administration.	The Ship Registry will determine this on a case by case basis.
Reg 13.3.6 Cargo ships Page 195	Means of escape in cargo ships. Dispensation from two means of escape. Exceptionally, the Administration may dispense with one of the means of escape, for crew spaces that are entered only occasionally, if the required escape route is independent of watertight doors.	One of the means of escape may be dispensed with under the circumstances stated.
Reg 13.4.2.2 Cargo ships <1,000gt Page 197	Means of escape on cargo ships Dispensation from two means of escape in ships of less than 1,000gt.	One of the means of escape may be dispensed with under the circumstances stated in Reg.13.4.2.2.
Reg 18.3.2 Page 207 All ships with helicopter facilities	The use of aluminium or other low melting point metal construction that is not made equivalent to steel.	The Ship Registry only permits the use of aluminium or other low melting point metal construction under the circumstances stated in Reg. 18.3.2.
Reg 19.2 Page 210 Ships carrying dangerous goods	Carriage of dangerous goods, general requirements. Cargo ships of less than 500 gross tonnage shall comply with Reg. 19.2.1 but Administrations may reduce the requirements and such reduced requirements shall be recorded in the document of compliance referred to in Reg 20.4.	This will be considered on a case by case basis. The reduced requirements will be stated in the document of compliance.
Reg 19.3.1.3 Page 211 Ships carrying dangerous goods <500gt	Carriage of dangerous goods - Special requirements - water supplies – Use of hoses in small cargo spaces and in small areas of larger cargo spaces at the discretion of the Administration.	Hoses are permitted under the circumstances stated in Reg. 19.3.1.3 in small cargo spaces and in small areas of larger cargo spaces.

<p>Reg 19.3.9 Page 213 Ships carrying dangerous goods</p>	<p>Carriage of dangerous goods, special requirements - water-spray system. The Administration may permit the use of any other fixed fire-extinguishing system that has been shown by full-scale test to be no less effective.</p>	<p>This will be considered on a case by case basis.</p>
<p>Reg 20.3.1.1 Page 218 passenger ships and cargo ships</p>	<p>There shall be provided an effective power ventilation system to give at least the following air changes:</p> <p>Passenger ships: special category spaces & closed ro-ro and vehicle spaces other than special category spaces – 10 air changes per hour. Cargo ships -6 air changes per hour.</p> <p>The Administration may require an increased number of air changes when vehicles are being loaded and unloaded.</p>	<p>When vehicles are being loaded and unloaded the number of air changes must be calculated based on the tables stated in MSC/Circ.729 Part 1 Design guidelines for ventilation systems in Ro-Ro cargo spaces.</p>
<p>Reg 20.6.1.3 Page 220 All ships</p>	<p>Fixed fire detection and fire alarm systems. The Administration may permit the use of any other fixed fire-extinguishing system that has been shown, by a full-scale test in conditions simulating a flowing petrol fire in a vehicle space or a ro-ro space, to be not less effective in controlling fires likely to occur in such a space.</p>	<p>This will be considered on a case by case basis.</p>

Annex 2 Authorisation delegated to Recognised Organisations (RO)

SOLAS consolidated edition 2014 Regulation	Summary of the regulation	Isle of Man Ship Registry's requirements
Reg 4.3 Page 134 all ships	Gaseous fuel systems used for domestic purposes shall be approved by the Administration.	The ship's RO is authorised to approve these systems on the Ship Registry's behalf, taking into account the UI for arrangements for gaseous fuel for domestic purposes stated in MSC.1/Circ. 1276.
Reg 4.5.6.3 Page 139	The arrangements for inerting, purging or gas-freeing of empty tanks as required in paragraph 5.5.3.1 shall be to the satisfaction of the Administration.....	The arrangements must be to the satisfaction of the ship's RO.
Reg 9.2.2.1.5.1 Page 150 Car ferries	Main vertical zones and horizontal zones. On ships designed for special purposes, such as automobile or railroad car ferries, where the provision of main vertical zone bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.	The ship's RO is authorised to carry out the approval on the Ship Registry's behalf.
Reg 9.2.2.4.4 Page 159 & Reg 9.2.3.3.4 Page 164 & Reg 9.2.4.2.4 Page 168	Fire integrity of bulkheads and decks. In such boundaries which are not required to have "A" Class integrity, doors may be constructed of materials which are to the satisfaction of the Administration.	The ship's RO is authorised to determine the materials used for the construction of the doors.
Reg 10.2.1.2 Page 177 passenger ships & cargo ships	<u>in passenger ships</u> The arrangements for the ready availability of water supply shall be: If fitted with periodically unattended machinery spaces in accordance with regulation II-1/54, the Administration shall determine provisions for fixed water fire-extinguishing arrangements for such spaces equivalent to those required for normally attended machinery spaces; <u>In cargo ships:</u> To the satisfaction of the Administration.	The arrangements for the provision of fixed water fire-extinguishing arrangements must be to the satisfaction of the ship's RO.
Reg 10.6.3.2 Page 186 All ships	Flammable liquid lockers shall be protected by an appropriate fire-extinguishing arrangement approved by the Administration.	The fire-extinguishing arrangement must be appropriate for the flammable liquids contained in the space. The ship's RO is authorised to carry out the approval on the Ship Registry's behalf.
Reg 11.3.1 Page 189 All ships	The insulation of aluminium alloy components of "A" or "B" Class divisions, except structure which, in the opinion of the Administration, is non-load-bearing, shall be such that the temperature of the structural core does not rise more than	Apply the RO's rules to non-load-bearing structures.

	200° C above the ambient temperature at any time during the applicable fire exposure to the standard fire test...	
Reg 19.3.2 Page 211 All ships carrying dangerous goods	Carriage of dangerous goods - Special requirements – Sources of ignition Electrical equipment and wiring shall not be fitted in enclosed cargo spaces or vehicle spaces unless it is essential for operational purposes in the opinion of the Administration.	Apply the RO's rules on fitting electrical equipment in hazardous areas.
Reg 20.4.1 All ships Page 219	Fixed fire detection and fire alarm systems The type of detectors and their spacing shall be to the satisfaction of the Administration.	The type of detectors and their spacing and location shall be to the satisfaction of the RO, taking into account the effects of ventilation and other relevant factors. After being installed, the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the RO.

Annex 3 Type approval

SOLAS consolidated edition 2014 regulation	Item requiring type approval	Type approval standard
Reg 1.6.2.1.2 page 123 FSS Code Chapter 14	Low-expansion foam concentrates for fixed fire-extinguishing systems.	MSC. 1/ Circ. 1312; and MSC.1/Circ.1312/Corr.1
FSS Code Chapter 14	Medium-expansion foam concentrates for fire-extinguishing systems.	MSC/Circ.798
FSS Code Chapter 6	High-expansion foam systems.	MSC.1/Circ.1384
Reg 4.5.3.3 Page 137 tankers	Safety devices in venting systems.	The requirements are as stated in- a) MSC/Circ.1009. which are applicable for devices installed on or after 01 July 2002; and b) MSC/Circ.677 Revised standards for design, testing and locating of devices to prevent the passage of flame into cargo tanks for devices installed prior to 01 July 2002.
Reg 6.3.1 Page 144	Primary deck covering applied within accommodation and service spaces and control stations.	Type approval must be carried out to ensure the material will meet the requirements stated in the 2010 Fire Test Procedures Code (Resolution MSC.307(88)); and MSC.1/Circ.1435 UI of the FTP Code.
Reg 10.2.3.1.1 All ships Page 180	Fire hoses and nozzles - general specifications.	Must be constructed to one of the following standards. BS EN 671-1:2012 Fixed firefighting systems. Hose systems. Hose reels with semi-rigid hose; or BS EN 14540:2004 Fire-fighting hoses. Non-percolating layflat hoses for fixed systems.
Reg 10.3.1 Page 181 FSS Code 4	Portable fire extinguishers.	FSS Code Chapter 4, & Resolution A.951(23).
Reg 10.5.6.2 Page 184 passenger ships of 500GT and above & cargo ships of 2000GT and above	Machinery spaces of category A above 500 m ³ in volume shall, in addition to the fixed fire-extinguishing system required in paragraph 5.1.1, be protected by an approved type of fixed water-based or equivalent local application fire-extinguishing system, based on the guidelines developed by the Organization.	Fixed water-based local application fire-fighting systems must be approved to: MSC.1/Circ.1387; MSC/Circ.1082; and MSC.1/Circ.1276.
Reg 13.3.2.5.1 Passenger ships Page 194	Marking of escape routes The Administration shall ensure that such lighting or photoluminescent equipment	Low-location lighting systems shall be type approved in accordance with: The FSS Code Chapter 11; and Resolution A.752(18) Guidelines for evaluation,

	has been evaluated, tested and applied in accordance with the Fire Safety Systems Code.	testing and application of low-location lighting on passenger ships.
Reg 3.2 Reg 3.4 Reg 9.4.1.1.2 Reg 9.4.1.2.1	A Class divisions fire integrity; B Class divisions fire integrity; fire doors in A Class division; and fire doors in B Class division.	Type approval must be carried out to ensure the material will meet the requirements stated in the 2010 Fire Test Procedures Code (Resolution MSC.307(88)); and MSC.1/Circ.1435 UI of the FTP Code
Reg 10.1.1 Page 188 FSS Code Chapter 3	Fire-fighters outfits protective clothing (close proximity clothing)	BS EN 469:2005; BS EN 1486:2007; or ISO 15538:2001
Reg 10.1.1 Page 188 FSS Code Chapter 3	Fire-fighters outfits: boots	BS EN 15090:2012; BS EN 15090:2006; or ISO 20344:2011.
Reg 10.1.1 Page 188 FSS Code Chapter 3	Fire-fighters outfit: gloves	BS EN 659:2003+A1:2008; or BS EN 60903:2003.
Reg 10.1.1 Page 188 FSS Code Chapter 3	Fire-fighters outfits: helmets	BS EN 443:2008
Reg 10.1.1 Page 188 FSS Code Chapter 3	Fire-fighters outfit: Self-contained compressed air breathing apparatus	BS EN 136:1998; or BS EN 137:2006; or BS ISO 23269-2:2011

Annex 4 Passenger ships

SOLAS consolidated edition 2014 regulation	Summary of the regulation	Isle of Man Ship Registry's requirements
Reg 5.2.2.5 Page 141 passenger ships	Means of control in machinery spaces The controls required in paragraphs 2.2.1 to 2.2.4 and in regulations 8.3.3 and 9.5.2.3 and the controls for any required fire-extinguishing system shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration.	The RO is to provide details of the proposal and the Ship Registry will determine if this is acceptable on a case by case basis.
Reg 5.3.3 Page 143 passenger ships	Furniture in stairway enclosures of passenger ships The Administration may permit additional seating in the main reception area within a stairway enclosure if it is fixed, non-combustible and does not restrict the passenger escape route.	Additional seating in the main reception areas is permitted under the circumstances stated.
Reg 7.5.3 Page 146 passenger ships <36 passengers	Requirements for passenger ships carrying not more than 36 passengers There shall be installed throughout each separate zone, whether vertical or horizontal, in all accommodation and service spaces and, where it is considered necessary by the Administration, in control stations, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc., either: .1 a fixed fire detection and fire alarm system.....or .2 an automatic sprinkler, fire detection and fire alarm system of an approved type complying with the relevant requirements of the Fire Safety Systems Code.....	The Ship Registry will determine this on a case by case basis.
Reg 7.6 Page 147 passenger ships	Protection of cargo spaces in passenger ships A fixed fire detection and fire alarm system or a sample extraction smoke detection system shall be provided in any cargo space which, in the opinion of the Administration, is not accessible, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.	The Ship Registry will determine this on a case by case basis.
Reg 7.8.2 Page 148 passenger ships	Inspection hatches The construction of ceilings and bulkheads shall be such that it will be possible, without impairing the efficiency of the fire protection, for the fire patrols to detect any smoke originating in concealed and inaccessible places, except where in the opinion of the Administration there is no risk of fire originating in such places.	The Ship Registry will determine this on a case by case basis.
Reg 8.3.4 Page 149 passenger ships	Release of smoke from machinery spaces the controls required by paragraph 3.3 shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration.	The Ship Registry will determine this on a case by case basis.
Reg 9.2.2.3.1 Page 151 passenger ships	Fire integrity of bulkheads and decks in ships carrying more than 36 passengers In addition to complying with the specific provisions for fire integrity of bulkheads and decks of passenger ships, the minimum fire integrity of all bulkheads and decks shall be as prescribed in tables 9.1 and 9.2. Where, due	The Ship Registry will determine this on a case by case basis.

	to any particular structural arrangements in the ship, difficulty is experienced in determining from the tables the minimum fire integrity value of any divisions, such values shall be determined to the satisfaction of the Administration.	
Reg 9.2.2.3.2.5 Page 155 passenger ships	Fire integrity of bulkheads and decks in ships carrying more than 36 passengers The Administration shall determine in respect of category (5) spaces whether the insulation values in table 9.1 shall apply to ends of deckhouses and superstructures, and whether the insulation values in table 9.2 shall apply to weather decks. In no case shall the requirements of category (5) of tables 9.1 or 9.2 necessitate enclosure of spaces which in the opinion of the Administration need not be enclosed.	The Ship Registry will determine this on a case by case basis.
Reg 9.4.1.1.6 Page 170 passenger ships <36 passengers	Openings in bulkheads and decks in passenger ships In ships carrying not more than 36 passengers, where a space is protected by an automatic sprinkler fire detection and fire alarm system complying with the provisions of the Fire Safety Systems Code or fitted with a continuous "B" Class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "A" Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration.	The Ship Registry will determine this on a case by case basis.
Reg 9.4.1.2.3 Page 170 passenger ships <36 passengers	Openings in "B" Class divisions For ships carrying not more than 36 passengers, the Administration may permit the use of combustible materials in doors separating cabins from the individual interior sanitary spaces such as showers.	The use of combustible materials is permitted in doors separating cabins from the individual sanitary spaces such as showers.
Reg 9.4.2.4.1 Page 171 passenger ships <36 passengers	Openings in "B" Class divisions In ships carrying not more than 36 passengers, where an automatic sprinkler system complying with the provisions of the Fire Safety Systems Code is fitted: openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "B" Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration;	The Ship Registry will determine this on a case by case basis.
Reg 9.5.2.4 Page 172 passenger ships	Protection of openings in machinery space boundaries In passenger ships, the means of control required in paragraph 5.2.3 shall be situated at one control position or grouped in as few positions as possible, to the satisfaction of the Administration. Such positions shall have safe access from the open deck.	The Ship Registry will determine this on a case by case basis.
Reg 13.3.2.1 Passenger ships Page 193	Means of escape in passenger ships Below the bulkhead deck, two means of escape, at least one of which shall be independent of watertight doors, shall be provided from each watertight compartment or similarly restricted space or group of spaces.	If requested the Ship Registry will dispense with this requirement under the circumstances stated.

	Exceptionally, the Administration may dispense with one of the means of escape for crew spaces that are entered only occasionally, if the required escape route is independent of watertight doors.	
Reg 13.2.6.2 Passenger ships Page 195	Normally locked doors that form part of an escape route Escape doors from public spaces that are normally latched shall be fitted with a means of quick release. Such means shall consist of a door-latching mechanism incorporating a device that releases the latch upon the application of a force in the direction of escape flow. Quick release mechanisms shall be designed and installed to the satisfaction of the Administration and, in particular.....	The Ship Registry will determine this on a case by case basis.
Reg 13.4.1.3 Passenger ships Page 196	Means of escape from machinery spaces - dispensation from two means of escape In a ship of less than 1,000 gross tonnage, the Administration may dispense with one of the means of escape, due regard being paid to the width and disposition of the upper part of the space. In a ship of 1,000 gross tonnage and above, the Administration may dispense with one means of escape from any such space.....	The Ship Registry will determine this on a case by case basis and one of the means of escape may be dispensed with under the circumstances stated.
Reg 13.5.1 passenger ships Page 197	Means of escape on passenger ships from special category and open ro-ro spaces to which any passengers carried can have access In special category and open ro-ro spaces to which any passengers carried can have access, the number and locations of the means of escape both below and above the bulkhead deck shall be to the satisfaction of the Administration.....	The Ship Registry will determine this on a case by case basis.
Reg 20.6.4.1.1.3 Page 220 Passenger ships	Fixed fire-extinguishing systems in the spaces below the bulkhead deck, the Administration may require pumping and drainage facilities to be provided additional to the requirements of regulation II-1/35-1.....	This is required unless it can be proved otherwise through stability modelling.
Reg 21.4.14 Passenger ships Constructed on/after 01/07/10 Page 223 & 224	Safe return to port When fire damage does not exceed the casualty threshold indicated in paragraph 3, the ship shall be capable of returning to port while providing a safe area as defined in regulation 3.51. To be deemed capable of returning to port, the following systems shall remain operational in the remaining part of the ship not affected by fire: .14 other systems determined by the Administration to be vital to damage control efforts. Safe area(s) the safe area(s) shall generally be internal space(s); however, the use of an external space as a safe area may be allowed by the Administration taking into account any restriction due to the area of operation and relevant expected environmental conditions; Alternate space for medical care Alternate space for medical care shall conform to a	This will be determined on a case-by-case basis at the plan approval stage following recommendations made by the ship's RO. The Ship Registry applies MSC.1/Circ.1369/Add.1.

	<p>standard acceptable to the Administration. Refer to Interim Explanatory Notes for the assessment of passenger ship systems capabilities after a fire or flooding casualty (MSC.1/Circ.1369/Add.1).</p> <p>Cabling Cabling and piping within a trunk constructed to an "A-60" standard shall be deemed to remain intact and serviceable while passing through the unserviceable main vertical zone for the purposes of paragraph 3.1. An equivalent degree of protection for cabling and piping may be approved by the Administration.</p>	
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