

Que. What is the period of abandonment in SOLAS for passenger ships?

Ans. SOLAS Regulation III/21.1.3 states that all survival craft required to provide abandonment by the total number of persons on board must be capable of being launched with their full complement of persons and equipment within a period of 30 minutes from the time the abandon ship signal is given, after all persons have been assembled, with lifejackets donned.

Que. What are the survival craft carriage requirements on passenger ships engaged on deep-sea international voyages?

Ans. They must carry partially or totally enclosed lifeboats on each side of such aggregate capacity as will accommodate not less than 50% of the total number of persons on board. In addition, inflatable or rigid liferafts of such aggregate capacity as will accommodate at least 25% of the total number of persons on board must be carried. These liferafts must be served by at least one launching appliance on each side.

The Administration may permit the substitution of lifeboats by liferafts of equivalent total capacity, provided that there should never be less than sufficient lifeboats on each side of the ship to accommodate 37.5% of the total number of persons on board. A marine evacuation system(s) may be substituted for the equivalent capacity of liferafts and launching appliances.

Passenger ships must also carry at least one rescue boat.

Ref: SOLAS Regulation III/21

Que. What amendments to SOLAS Regulation II-2/13 entered into force on 1st January 2020?

Ans. Resolution MSC.404(96) extends the minimum requirements for evacuation analysis on all passenger ships (previously just RoRo ships). They concern the mandatory evaluation of escape routes in the design process of passenger ships to avoid congestion,

facilitate crew movement and ensure flexibility if certain escape routes are unavailable. Associated revised guidelines on evacuation analyses for new and existing passenger ships were approved at MSC 96 in May 2016 (MSC.1/Circ.1533).

Que. What are the SOLAS requirements regarding the recovery of persons from the water?

Ans. All ships must have ship-specific plans and procedures for the recovery of persons from the water. The plans and procedures must identify the equipment to be used for recovery purposes and the measures to be taken to minimise the risk to shipboard personnel in recovery operations. MSC.1/Circ.1447 sets out IMO guidelines for the development of these plans.

Que. What is the FSS Code?

Ans. The International Code for Fire Safety Systems (FSS Code) contains engineering specifications for fire safety equipment and systems as required under SOLAS Chapter II-2, including international shore connections, fire extinguishers, fixed systems, fire pumps, means of escape and detection systems.

Que. What are the 2024 amendments to the FSS Code?

Ans. Two amendments to the FSS Code entered into force on 1st January 2024. The first (Resolution MSC.457(101)), adopted in June 2019, introduced improved wording in Chapter 15, with the term 'forward of' replaced with 'downstream' in relation to system components within inert gas systems. The second (Resolution MSC.484(103)) concerned fault isolation requirements for cargo ships and passenger ship cabin balconies fitted with individually identifiable fire detector systems.

Que. What are the fire detection requirements on new build passenger ships built after 1st July 2012 carrying more than 12 passengers?

Ans. Fixed fire detection and fire alarm systems must be capable of remotely and individually identifying each detector and manually operated call point. A section of fire detectors and manually operated call points must not be situated in more than one main vertical zone, except on cabin balconies.

Ref: FSS Code, June 2012

Que. What was the 2014 amendment to SOLAS requirements for firefighter's communication?

Ans. SOLAS Regulation II-2/10.10.4 states that ships constructed on or after 1st July 2014 must carry on board a minimum of two two-way portable radiotelephone apparatus for each fire party, for firefighter's communication. They must be of an explosion-proof type or intrinsically safe. All other ships constructed before 1st July 2014 had to comply with these requirements not later than the first survey after 1st July 2018.

Que. What are the SOLAS requirements for the number of fire pumps on ships?

Ans. SOLAS Regulation II-2/10.2.2.2 states that ships must be provided with independently driven fire pumps as follows:

- On passenger ships of $\geq 4,000$ GT – at least three fire pumps
- on passenger ships of $< 4,000$ GT – at least two fire pumps
- on cargo ships of $\geq 1,000$ GT – at least two fire pumps
- on cargo ships of $< 1,000$ GT – at least two power-driven fire pumps, one of which must be independently driven.

Que. What are the SOLAS requirements for the number of firefighter's outfits on ships?

Ans. SOLAS Regulation II-2/10.10.2.1 states that ships must have at least two firefighter's outfits.

In addition:

- SOLAS Regulation II-2/10.10.2.2.1 states that *“in passenger ships carrying more than 36 passengers, two additional fire-fighter's outfits shall be provided for each main vertical zone”* (excepting stairway enclosures as defined in the regulation)
- SOLAS Regulation II-2/10.10.2.2.2 states that ships carrying more than 36 passengers must provide *“for each pair of breathing apparatus, one water fog applicator which shall be stored adjacent to such apparatus”*
- SOLAS Regulation II-2/10.10.2.3 states that *“in tankers, two fire-fighter's outfits shall be provided”*.

For ships carrying dangerous goods, added safety measures are stipulated under SOLAS Regulation II-2/19. At least two extra SCBA are to be provided (in addition to those required by Regulation II-2/10.10).

The Administration may also require additional outfits and equipment having due regard to the size and type of ship. Two spare charges must be provided for each required breathing apparatus. However, for cargo ships and passenger ships carrying not more than 36 passengers which are equipped with means for fully recharging cylinders, only one spare charge is needed for each required SCBA.

Que. What are the SOLAS requirements for fire hose lengths on ships?

Ans. Fire hoses should have a length of at least 10 m, but not more than:

- 15 m in machinery spaces
- 20 m in other spaces and open decks
- 25 m for open decks on ships with a maximum breadth in excess of 30 m.

Que. What information is available on firefighting equipment on UK ships?

Ans. The principal regulations are The Merchant Shipping (Fire Protection) Regulations 2023. MSN 1665 (Amendment 1) references these regulations in relation to firefighting equipment. It has the following schedules:

- Schedule 1: International shore connection
- Schedule 2: Non-portable foam fire extinguishers
- Schedule 3: Non-portable carbon dioxide fire extinguishers
- Schedule 4: Non-portable dry powder fire extinguishers
- Schedule 5: Breathing apparatus
- Schedule 6: Portable foam-applicator units
- Schedule 7: Fire pumps and fire main
- Schedule 8: Fire extinguishers.

MSN 1901 and MSN 1902 provide further details for ships built after 1st July 2002 on international and non-international voyages respectively.

MGN 667 provides guidance on both these MSNs as well as the 2023 Regulations as a whole.

In addition, MSN 1666 (Amendment 1) covers fixed fire detection alarm and extinguishing systems.

Note that halon firefighting systems are prohibited due to their damaging effect on the stratospheric ozone layer (see MGN 258).

Que. Give an overview of the bridge navigational watch alarm system (BNWAS).

Ans. BNWAS is a mandatory requirement for passenger and cargo ships as per SOLAS Regulation V/19. A BNWAS must be in operation whenever the ship is underway at sea. Its function is to monitor bridge activity and detect operator disability, by use of motion sensors and manual resets. If no motion or reset response is provided by the watchkeeper, the BNWAS will initially sound an alarm on the bridge in an attempt to alert the watchkeeper. If no response is received, the alarm will then alert the Master or other OOWs.

In operation:

- Once operated, the system should, at preset intervals between 3 and 12 minutes, initiate a visual indication on the bridge
- if not reset, the BNWAS should sound a first stage audible alarm on the bridge, 15 seconds after the visual indication was initiated
- if not reset, the BNWAS should sound a second stage remote audible alarm, in the Master's and/or backup officers' locations, 15 seconds after the first stage audible alarm was initiated
- if still not reset, a third stage alarm should sound, at the location of further crewmembers capable of taking corrective action, 90 seconds after the second stage alarm was initiated.

Note:

In ships other than passenger ships, the second or third stage alarms may sound at the same time. In larger ships, the delay between second and third stage alarms may be increased by up to three minutes to allow sufficient time for backup personnel to reach the bridge.

The reset button on the BNWAS should cancel all audible and visual alarms and initiate a further dormant period of between three and 12 minutes. If pressed before the expiry of a dormant period, the timer should reset.

Further information may be found in MSC.128(75) – '*Performance standards for a bridge navigational watch alarm system (BNWAS)*'.