

Amendments taking effect in year 2024
in accordance with the four-year cycle entry-into-force scheme

SOLAS Convention and related mandatory Codes

2028

2024

2020





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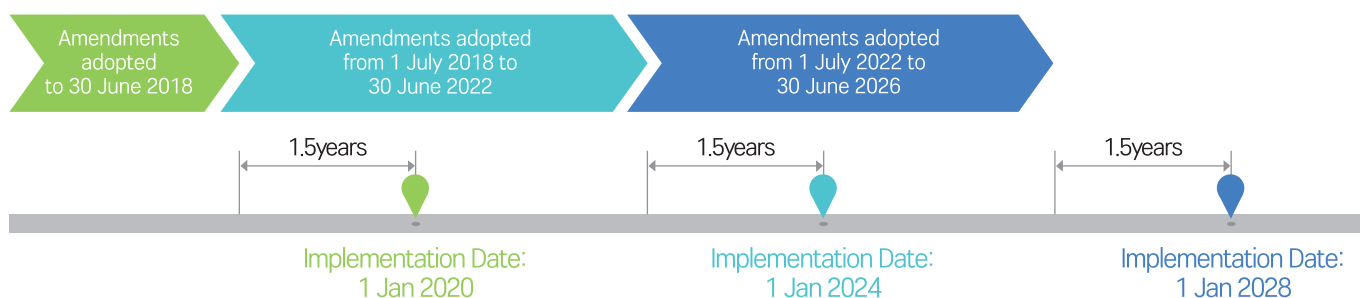
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1. Preface

This document introduces the amendments of SOLAS and related mandatory Codes that will be implemented in year 2024 in accordance with the four-year cycle entry-into-force scheme.

Four-year cycle entry-into-force of SOLAS and related mandatory Codes

SOLAS Convention and related mandatory Codes are regularly updated through amendments, which are adopted by the IMO's Maritime Safety Committee (hereinafter referred to as "MSC"). In this regard, the four-year cycle entry-into-force refers to the process by which the amendments of SOLAS Convention and related mandatory Codes are implemented every four years, in accordance with MSC.1/Circ.1481¹ and as illustrated below:



The four-year cycle entry-into-force scheme covers a wide range of SOLAS requirements related to maritime safety, including fire safety, life-saving appliances, navigation equipment and structural design requirements for ships, and includes mandatory instruments under the SOLAS Convention. However, the 2011 ESP, IMDG and IMSBC Codes being continuously amended, and chapter 17 of the IBC Code and chapter 19 of the IGC Code containing the list of pertinent cargoes are excluded from the scheme.

It would be noteworthy though that, considering the delayed IMO's discussion process under the exceptional circumstance of COVID-19, MSC, at its 104th session, decided to introduce an ad-hoc implementation date, 1 Jan 2026, in addition to the current four year-cycle entry-into-force, to timely implement the amendments of SOLAS and related mandatory Code.

The amendments to SOLAS and related mandatory instruments entering into force in year 2024

This document in principle aims at introducing the amendments of SOLAS Convention and related mandatory instruments, which were adopted during the period between 1 July 2018 to 30 June 2022, i.e., from 100th to 105th sessions of MSC, with a view towards entry into force on 1 January 2024. In addition, it also deals with

1. Guidance on entry into force of amendments to the 1974 SOLAS Convention and related mandatory instruments (MSC.1/Circ.1481)

the amendments, which should have been originally implemented as per the four-year cycle entry-into-force scheme, but which will inevitably take into force on 1 July 2024 outside the scheme due to the delay caused by COVID-19 and their urgency.

Other amendments² of safety-related IMO Conventions and mandatory instruments entering into force in year 2024 but not subject to the four-year cycle entry-into-force are not included in this document.

The key issues of the amendments may be summarized as shown below:

- Safe mooring operations (SOLAS regulation II-1/3-8)
- Watertight integrity (SOLAS II-1, Parts B-2 to B-4)
- Water level detectors on multiple hold cargo ships other than bulk carriers and tankers (SOLAS regulation II-1/25-1)
- GMDSS Modernization (SOLAS Chapter IV, 1994 HSC Code and 2000 HSC Code)
- Safe transport of industrial personnel (SOLAS Chapter XV and the IP Code)
- Various amendments for ships using LNG as fuel (The IGF Code)
- Hinged watertight doors (The IGC Code and the IBC Code)

Details of the amendments are contained in sections 2 and 3 of this document

Symbols used

To identify the concerned parties to the amendments, and for the case where the amendments bear a retroactive implication to ships-in-service, this document uses the following symbols:

| | |
|---|-------|
| Ship owners or operators | Owner |
| Shipyards | Yard |
| Equipment manufacturers | Equip |
| Retroactive implication to ships-in-service | Retro |

2. The load line Convention, the 2011 ESP Code, the IMDG Code, the IMSBC Code, the IBC Code (limited to Chapter 17), and the IGC Code (limited to Chapter 19)

2. Entry into force on 1 January 2024

SOLAS Convention

1. Definition of the expression “ships constructed on or after 1 January 2024”

Res.MSC.474(102)

The definition of the expression “ships constructed on or after 1 January 2024” was established as an application provision for relevant parts of SOLAS Chapter II-1. (Chapter II-1, Regulation 1)

Owner Yard Equip

2. Safe Mooring Operations

Res.MSC.474(102)

The amendments introduce new safety requirements for design, selection, inspection, maintenance, and replacement of mooring and towing arrangements, and apply in conjunction with MSC.1/Circ.1175/Rev.1³, MSC.1/Circ.1619⁴, and MSC.1/Circ.1620⁵.

While the amendments generally apply to ships contracted for construction on or after 1 January 2024, regulation II-1/3-8.9 therein retroactively applies to ships-in-service in conjunction with MSC.1/Circ.1620.

Owner Yard Retro

To comply with regulation II-1/3-8.9, appropriate shipboard procedures for safe operations, inspection, and maintenance of mooring equipment, including mooring lines, should be established, and placed. (Chapter II-1, Regulation 3-8)

3. Watertight integrity (Parts B2 to B4 of SOLAS Chapter II-1)

Res.MSC.474(102)

The amendments are mainly to align SOLAS II-1/Parts B-2 to B-4 with Parts B and B-1, wherein a probabilistic damage stability approach is taken, and apply to passenger ships and/or cargo ships constructed on or after 1 January 2024. (Chapter II-1)

For passenger ships constructed on or after 1 January 2024, factor s_i should be considered as zero during any intermediate or final stage of flooding, where the lower edge of openings that may allow progressive flooding is immersed and when such flooding is not included in the calculation of factor s_i . (Chapter II-1, Regulation 7-2)

Owner Yard

3. REVISED GUIDANCE ON SHIPBOARD TOWING AND MOORING EQUIPMENT

4. GUIDELINES ON THE DESIGN OF MOORING ARRANGEMENTS AND THE SELECTION OF APPROPRIATE MOORING EQUIPMENT AND FITTINGS FOR SAFE MOORING

5. GUIDELINES FOR INSPECTION AND MAINTENANCE OF MOORING EQUIPMENT INCLUDING LINES

For ships constructed on or after 1 January 2024, the kind of valves fitted at the pipe piercing through the collision bulkhead is no longer limited to a screw-down valve. (Chapter II-1, Regulation 12)

Owner Yard

For passenger ships constructed on or after 1 January 2024, the requirements of central operating console were amended. Amongst others, the open/close status of power-operated sliding watertight doors shall be also indicated in the onboard stability computer, if installed in accordance with SOLAS regulation II-1/8-1.3.1. (Chapter II-1, Regulation 13)

Owner Yard Equip

For ships constructed on or after 1 January 2024, the requirements related to the openings in side-plating below the bulkhead deck of passenger ships and the freeboard deck of cargo ships were modified to bring in line with the ICLL Reg.21(1). (Chapter II-1, Regulation 15)

Owner Yard

The terms “ash-chute” and “rubbish chute” were deleted from the requirements, taking into consideration that such openings may be no longer installed in modern ship design. (Chapter II-1, Regulations 16 and 21)

Owner Yard

For passenger ships constructed on or after 1 January 2024, the requirements relating to internal watertight integrity above the bulkhead deck were separately added. (Chapter II-1, Regulation 17)

Owner Yard

For ro-ro passenger ships, regulations II-1/17-1.1.1 to II-1/17-1.1.3 were amended to clarify their meaning. (Chapter II-1, Regulation 17-1)

Owner Yard

For passenger ships constructed on or after 1 January 2024 and to which regulation II-1/8-1.3 applies, the damage control information shall include a reference to activation of damage stability support from the onboard stability computer or to shore-based support as applicable. (Chapter II-1, Regulation 19)

Owner Yard

For ships constructed on or after 1 January 2024, new regulation 22.7 permits a watertight hatch to be opened for passage or access during navigation within a limited time under the authorization of ship’s master. (Chapter II-1, Regulation 22)

Owner Yard

Existing references to regulations were updated. (Chapter II-1, Regulations 23 and 42)

Owner Yard

4. Water level detectors on multiple hold cargo ships other than bulk carriers and tankers

Res.MSC.482(103)

Where constructed on or after 1 January 2024, cargo ships with multiple holds, other than bulk carriers and tankers, shall be installed with water level detectors in each dry cargo hold situated below their freeboard deck. These amendments are implemented together with the revised Performance Standards, as amended by resolution

Owner Yard Equip

MSC.188(79)/Rev.1. A bilge level sensor that serves the cargo hold's bilge well may be accepted as an alternative to the low-level detector located at a height of 0.3m if it complies with the revised Performance Standards. (Chapter II-1, Regulation 25-1)

5. Exemption of five (5) knot launching test for free-fall lifeboats

Res.MSC.482(103)

From 1 January 2024, freefall lifeboats no longer need to be capable of being launched with the ship making headway at speeds up to 5 knots in calm sea. Based on the amendment, freefall lifeboats are not required to go through the 5 knot launching test at the time of new installation. It should be noted, however, that the amendment does not exempt the periodical launching or simulated-launching drills for freefall lifeboats, as required by SOLAS regulation III/19.3.4.4. (Chapter III, Regulation 33)

Owner Yard Equip

6. GMDSS Modernization

Res.MSC.496(105)

References of SOLAS regulation IV relating to MF/HF radio installation were updated for the provisions of emergency source of electrical power due to the amendments to SOLAS Chapter IV. (Chapter II-1, Regulations 42 and 43)

Owner Yard

The provisions of two-way VHF radio telephone apparatus and SART were entirely deleted from SOLAS regulations III/6.1 and III/6.2 and consolidated in SOLAS regulation IV/7 (GMDSS). As such, the two equipment are no longer related to the validity of Cargo Ship Safety Equipment (CSSE) certificate but remains pertinent only to that of Cargo Ship Safety Radio (CSSR) certificate. (Chapter III, Regulations 6.1 and 6.2)

Owner

SOLAS Chapter IV (GMDSS) was entirely rewritten using generalized terms and expressions to accommodate existing and/or future GMDSS technologies. The key changes may be summarized as shown below:

- VHF-EPIRB will be no longer accepted in lieu of satellite EPIRB for sea area A1 (Chapter IV, Regulation 8)
- Sea areas were respectively recategorized from A1, A1+A2, A1+A2+A3 and A1+A2+A3+A4 to A1, A2, A3 and A4 (Chapter IV, Regulations 8, 9, 10 and 11)
- The coverage of sea area A3 became variable by the type of Recognized Mobile Satellite Service SES (Chapter IV, Regulation 2)
- MF/HF radio installation only remains as a primary equipment for sea area A4, not for sea area A3. (Chapter IV, Regulations 10 and 11)
- MF/HF NBDP for distress and safety purpose is no longer required (Chapter IV, Regulation 11)
- To supplement the GMDSS modernization, all 13 non-mandatory IMO instruments, including various guidelines and Performance standards, were revised as necessary for the application from 1 Jan 2024, and some of them were footnoted under SOLAS regulation IV/14 (Chapter IV, Regulation 14)

Owner Yard Equip

The provision numbers of SOLAS Chapter IV were updated in the footnote relating to SOLAS regulation V/5.2.2, and in SOLAS regulations V/19-1.4.1 and V/19-1.4.2 relating to LRIT (Chapter V, Regulations 5.2, 19-1.4.1 and 19-1.4.2)

Owner Yard

7. Forms of SOLAS Safety Certificates

Res.MSC.496(105),
497(105)

The equipment records (Forms E, C and P) appended to SOLAS safety certificate formats were amended for their item 8.1 to read as "Rudder, propeller, thrust, pitch and operational mode indicator".

To accommodate the amendments to SOLAS Chapters III and IV relating to the GMDSS modernization, the forms of Passenger Ship Safety Certificate, Cargo Ship Safety Equipment Certificate, Cargo Ship Safety Radio Certificate, Cargo Ship Safety Certificate, Nuclear Passenger Ship Safety Certificate, Nuclear Cargo Ship Safety Certificate, and their equipment records were amended.

Owner Retro

It was confirmed by MSC 105 that, in accordance with MSC-MEPC.5/Circ.6, re-issuance of the relevant certificates may not be necessary until their expiry, even after the entry into force of the amendments pertaining to the GMDSS modernization, i.e., 1 January 2024.

FSS Code

1. Relaxation to voluntary installation of individually identifiable detectors

Res.MSC.484(103)

The new provision now clarifies that, where individually identifiable detectors are voluntarily fitted in cargo ships and on passenger ship cabin balconies, notwithstanding the provisions in paragraph 2.1.6.1 of the FSS Code Chapter 9, they may be supplemented by section identifiable fault isolation system, which is less complex and less costly. (Chapter 9, Paragraph 2.1.8)

Owner Yard Equip

2. Clarification to the expression "forward of" relating to Inert Gas System

Res.MSC.457(101)

To clarify the location of fittings and sensors within inert gas lines, the expression "forward of" was replaced with the wording "downstream of". (Chapter 15, Paragraphs 2.2.3.2.1, 2.2.3.2.6 and 2.2.4.2)

Owner Yard Equip

LSA Code

1. Clarification on the need for buoyant oars as lifeboat equipment

Res.MSC.459(101)

It was expressly indicated that a lifeboat equipped with two independent propulsion systems does not need to be provided with sufficient buoyant oars to make headway in calm seas. (Chapter IV, paragraph 4.4.8.1)

Owner Yard Equip

2. Exemption of five (5) knot launching test for free-fall lifeboats

Res.MSC.485(103)

From 1 January 2024, freefall lifeboats do not need to be capable of being launched with the ship making headway at speeds up to 5 knots in calm sea. This amendment corresponds to the amendment to SOLAS regulation III/33, as adopted by resolution MSC.482(103). (Chapter IV, paragraph 4.4.1.3.2)

Owner Yard Equip

3. Launching appliance of dedicated rescue boats for cargo ships

Res.MSC.459(101)

For a dedicated rescue boat of not more than 700 kg installed on cargo ship on or after 1 January 2024, its launching appliance does not need to be fitted with stored mechanical power, where provided with an appropriate manual mechanism. (Chapter VI, 6.1.1.3)

Owner Yard Equip

IGF Code

Various amendments made to the IGF Code

Res.MSC.458(101),
475(102)

The definition of the expression “ships constructed on or after 1 January 2024” was established as an application provision for relevant parts of the IGF Code. (Part A, Chapter 2, Paragraph 2.2.42)

Owner Yard

Factor f_v , which is used as an element of alternative calculation method in determining the location of fuel tanks, was modified to correctly reflect the probability that the damage is extending vertically above the lower most boundary of fuel tanks. (Part A-1, Chapter 5, Paragraph 5.3.4.2)

Yard

A fuel tank cofferdam is no longer required of a pressure relief system. (Part A-1, Chapter 6, Paragraph 6.7.1.1)

Owner Yard

For ships constructed on or after 1 January 2024, new paragraph 6.8.3 was established, in lieu of existing paragraph 6.8.2, to allow for a higher loading limit of liquefied gas fuel tank than calculated by paragraph 6.8.1 within the limit of 95%, when the probability of heating the fuel is very low. However, unlike paragraph 6.8.2, the new provision only retains the option of allowing a higher loading limit based on tank insulation and tank location but deletes the one based on a second system for pressure maintenance.

Owner Yard

(Part A-1, Chapter 6, Paragraph 6.8.3)

For ships constructed on or after 1 January 2024, new paragraphs 9.5.3 to 9.5.6 were established, in lieu of existing paragraphs 9.5.1 and 9.5.2, to apply the requirements relating secondary enclosures separately to gaseous fuel pipes and liquefied fuel pipes. While the new requirements for gaseous fuel pipes remains same with existing paragraphs 9.5.1 and 9.5.2, the one for liquefied fuel pipes focuses on the risks posed by leakage of liquid, such as its containment, detection, and maximum built-up pressure. (Part A-1, Chapter 9, Paragraph 9.5)

Owner Yard

For ships constructed on or after 1 January 2024, the exhaust system of internal combustion engine may not be equipped with explosion relief systems if designed to accommodate the worst-case overpressure due to ignited gas leaks or if justified by the safety concept of the engine. The amendments take into the design characteristics of different engine types. (Part A-1, Chapter 10, Paragraph 10.3.1.1)

Owner Yard Equip

The boundary requirements between spaces containing fuel containment system, i.e., a cofferdam of at least 900mm or A-60 class division, were deleted, as their benefit and technical background were not clear. (Part A-1, Chapter 10, Paragraph 11.3.3)

Owner Yard

For ships constructed on or after 1 January 2024, the fuel tank hold space may be considered as a cofferdam, provided that type C tanks are not located directly above machinery spaces of category A or other rooms with high fire risk and the distance from their outer shell to the A-60 boundary is not less than 900 mm. (Part A-1, Chapter 10, Paragraph 11.3.3.1)

Yard Equip

For ships constructed on or after 1 January 2024, fuel preparation rooms containing pumps, compressors or other potential ignition sources shall be provided with a fixed fire-extinguishing system. (Part A-1, Chapter 10, Paragraph 11.8)

Yard Equip

Regarding the tensile tests relating to welding of fuel containment system, the provision was slightly modified to generalize the expression to address materials other than aluminum alloys where under-matched welds⁶ are unavoidable. (Part A-1, Chapter 10, Paragraph 16.3.3.5.1)

Yard Equip

IGC Code

1. Hinged watertight doors

Res.MSC.492(104)

The amendments now expressly include hinged watertight doors as the watertight openings through which progressive flooding or down-flooding may not take place in any stage of flooding and incorporate the watertight door concept of SOLAS in the IGC

6. Under-matched welds mean that the weld metal has a lower tensile strength than the parent metal.

Code, corresponding to the amendments to ICLL 1988 Protocol, the IBC Code, and MARPOL Convention, respectively adopted through resolutions MSC.491(104), MSC.526(106) and MEPC.343(78). (Chapter 2, Paragraph 2.7.1.1)

Owner Yard

2. Undermatched welds

Res.MSC.476(102)

Regarding the tensile tests relating to welding of cargo containment system, the provision was slightly modified to generalize the expression to address materials other than aluminum alloys where under-matched welds are unavoidable. (Chapter 6, paragraph 6.5.3.5.1)

Yard Equip

1994 HSC Code

GMDSS Modernization

Res.MSC.498(105)

The provisions of two-way VHF radio telephone apparatus and search and rescue locating device were entirely deleted from Chapter 8 (LSA) of the Code for consolidation into the provisions relating to GMDSS, in line with the amendments to SOLAS Chapter III, as adopted by resolution MSC.496(105).

Chapter 14 (Radio-communication) of the Code was simplified to state that high-speed crafts subject to the 1994 HSC Code should comply with chapter 14 of the 2000 HSC Code, as amended by resolution MSC.499(105), regarding GMDSS requirements.

Owner Equip

The form of HSC Safety Certificate was modified to accommodate the amendments to the HSC Codes.

2000 HSC Code

GMDSS Modernization

Res.MSC.499(105)

The provisions of two-way VHF radio telephone apparatus and search and rescue locating device were entirely deleted from Chapter 8 (LSA) of the Code for consolidation into the provisions relating to GMDSS, in line with the amendments to SOLAS Chapter III, as adopted by resolution MSC.496(105).

Chapter 14 (Radio-communication) were re-written in line with the amendments to SOLAS 1974 relating to the GMDSS modernization, as adopted by resolution MSC.496(105).

Owner Yard Equip

The form of HSC Safety Certificate was modified to accommodate the amendments to the HSC Codes.

3. Entry into force on 1 July 2024

SOLAS Convention

New SOLAS Chapter XV for the safe transport of industrial personnel

Res.MSC.521(106)

New SOLAS Chapter XV was established to provide the safety requirements for the transport of more than 12 industrial personnel⁷ on cargo ships and high-speed cargo crafts, of 500 GT or upwards, adding on existing SOLAS Convention and/or the HSC Codes. The new SOLAS Chapter XV, supplemented by the IP Code, will enter into force on 1 July 2024.

For the transport of more than 12 industrial personnel, cargo ships or high-speed cargo crafts, regardless of their construction date, shall comply and be certified in accordance with SOLAS Chapter XV and the IP Code.

Nonetheless, cargo ships or high-speed cargo crafts constructed before 1 July 2024, but already authorized by the Administration to carry more than 12 industrial personnel in accordance with resolution MSC.418(97)⁸, shall retroactively comply with the requirements of the IP Code pertaining to IP's qualification, safe transfer, life-saving appliances/arrangements, and dangerous goods.

For relevant certification, IP Safety Certificate shall be issued in addition to SOLAS Safety Certificates or HSC Safety Certificate.



IP Code

New IP Code for the safe transport of industrial personnel

Res.MSC.527(106)

The IP Code was established to supplement new SOLAS Chapter XV and provide the detailed safety requirements for the transport of more than 12 industrial personnel on cargo ships and high-speed cargo crafts, of 500 GT or upwards.



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7. Industrial Personnel (IP) means all persons transported or accommodated on board for the purpose of offshore industrial activities performed on board other ships and/or offshore facilities.
8. Interim recommendations on the safe carriage of more than 12 industrial personnel on board vessels engaged on international voyages

Hinged watertight doors

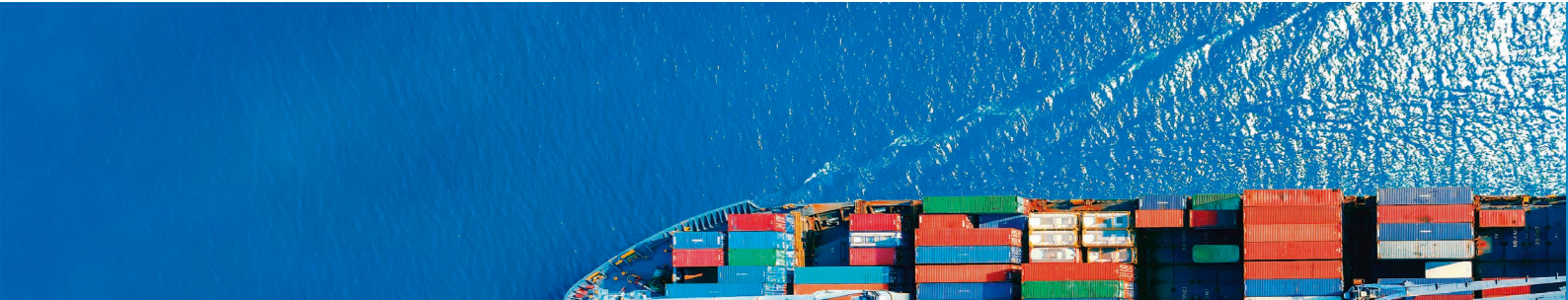
Res.MSC.526(106)

The amendments to the IBC Code now expressly include hinged watertight doors as the watertight openings through which progressive flooding or down-flooding may not occur in any flooding stages and incorporate the watertight door concept of SOLAS in the IBC Code, corresponding to the amendments to ICLL 1988 Protocol, the IGC Code and MARPOL Convention, respectively adopted through resolutions MSC.491(104), MSC.492(104) and MEPC.343(78).

Owner Yard

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