



IMO News Flash

MSC 109



One hundred-ninth session of the Maritime Safety Committee (hereinafter referred to as MSC 109) was convened in London from 2 to 6 December 2024 to discuss a wide range of issues under the purview of the Committee. This news flash briefs on the outcomes of MSC 109 on major technical issues.

Executive Summary

The Committee adopted amendments to various Conventions and mandatory IMO instruments, which enter into force on 1 July 2026 or 1 January 2028. The major amendments are listed below, and the details of all revisions can be found in this IMO News Flash.

- Amendments to the IGC Code to permit the use of toxic cargoes (e.g. Ammonia) as fuel; and
- Amendments to the IGF Code on various safety issues

In addition, a number of non-mandatory instruments including technical guidelines and unified interpretations were approved at this session. Key issues may be as follows:

- Unified interpretation of SOLAS regulation II-2/4.5.6.1 and the IBC Code relating to the piping arrangements for safe gas-freeing
- Unified interpretation of SOLAS regulation II-1/26.2 relating to single essential propulsion using a dual winding electric motor on passenger ships
- New performance standards for digital navigation data system (NAVDAT)
- Replacement or upgrade of shipborne VHF radio installations to allow communication using digital VHF channels
- Interim guidelines for the safety of ships using ammonia as fuel

Alongside several other draft amendments, MSC 109 notably approved amendments to SOLAS regulation V/23 concerning pilot transfer arrangements, as well as to the IGC Code addressing a wide range of safety issues. However, these draft amendments need to go through the formal adoption process at the next session of MSC to become legally binding.

As part of discussions on safe decarbonization and safe digitalization, MSC 109 continued its discussion on the development of a non-mandatory Code for autonomous ships and on the safe regulatory frameworks to support the GHG reduction using alternative fuels and new technologies.

Overall, MSC 109 could achieve fruitful results on various safety issues.

Hope KR News Flash may assist you to take a close look at and implement appropriately the outcome of MSC 109.

Adoption of amendments to Conventions and mandatory IMO instruments

1.1 Use of toxic cargoes as fuel on gas carriers

Amongst the toxic cargoes listed in chapter 19 of the IGC Code, ammonia stands out as an eco-friendly fuel option due to its lack of CO₂ emission, i.e. a major contributor to greenhouse gases. However, under the current IGC Code, the use of ammonia cargo as a ship's fuel is legally prohibited because of its toxicity.

As part of the comprehensive review of the IGC Code, the CCC Sub-Committee explored allowing the use of toxic cargoes, including Ammonia, as fuel for gas carriers from 2022 to 2023. These efforts align with global initiatives to reduce greenhouse gas emissions.

Consequently, paragraph 16.9.2 of the IGC Code were amended at this session. The details of the amendments are as follows:

- The prohibition on using cargoes as fuel now applies only to the one (i.e. toxic cargoes) that require the carriage in type 1G ship, which have the highest safety containment requirements; and
- Toxic cargoes required to be carried on type 2G/2PG ships, such as Ammonia, may be used as ship's fuel with the approval from the Administration, provided that the same level of safety as natural gas is maintained.



To support these amendments, the CCC Sub-Committee is currently developing the Guidelines on the use of ammonia cargo as fuel until 2026, which will be included as a footnote to the revised paragraph 16.9.2 of the IGC Code.

These amendments will come into force on 1 July 2026 and will apply to all gas carriers under the IGC Code, regardless of their construction dates. In addition, to encourage voluntary early implementation before 1 July 2026, an MSC circular was also approved during this session in conjunction with the adoption of the IGC Code amendments.

Source: MSC 109/WP.7/Annexes 1 and 3

1.2 Amendments to the IGF Code on various safety issues

During MSC 109, the amendments to the IGF Code were adopted to address various safety issues. These amendments enter into force on 1 January 2028. While they generally apply to **new ships** constructed on or after 1 January 2028¹, some provisions retroactively apply to **all ships**.

In this regard, key amendments, which may have substantive implications, are summarized in the ensuing paragraphs. Nonetheless, it is recommended that concerned parties go through thorough review on all revised provisions in the original IMO paper to correctly assess any implication to their business and work.

Source: MSC 109/WP.7/Annex 2

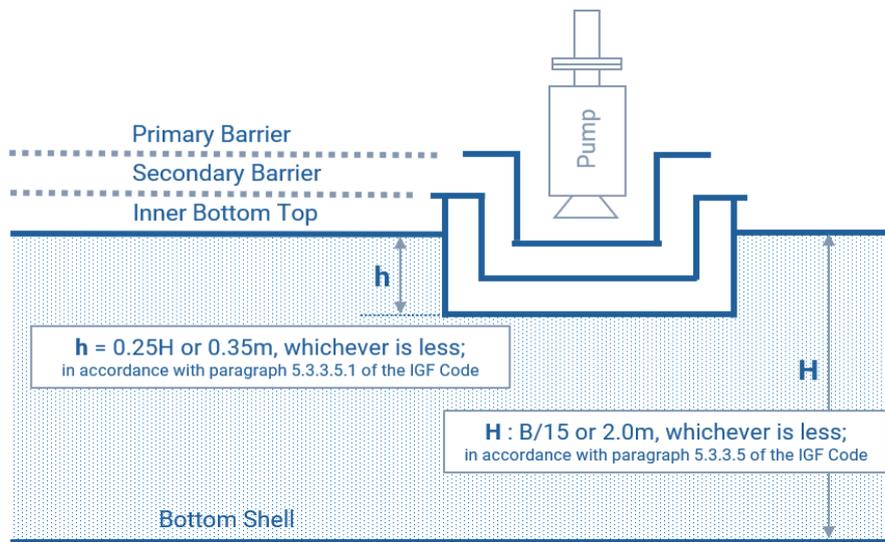
1.2.1 Suction well of LNG fuel tank (paragraphs 5.3.3.5.1 and 5.3.4.2 of the IGF Code)

While SOLAS regulation II-1/9.3.1 permits a reduced protection distance for small wells constructed within the double bottom of passenger ships and cargo ships (excluding tankers), the IGF Code does not specify the

¹ The term "ships constructed on or after 1 January 2028" means ships for the **building contract** is placed on or after **1 Jan 2028** or the **delivery** of which is on or after **1 Jan 2032**. For more details, please refer to paragraph 2.2.44 of the IGF Code.

allowable extent to which a suction well of an LNG fuel tank may extend into the ship's double bottom. This lack of clarity associated with LNG's inherent safety risk has raised questions about whether such a suction well could be permitted at the bottom of LNG fuel tank on ships subject to the IGF Code.

To address this, Korean Register submitted to CCC 9 document CCC 9/3/5 (Republic of Korea), which proposed the amendments to the IGF Code, based on paragraph 2.4.3 of the IGC Code. As a result, paragraphs 5.3.3.5.1 and 5.3.4.2 of the IGF Code were amended to specify that the suction well of an LNG fuel containment system, if fitted, may protrude below the inner bottom plating no more than 25% of the double bottom's depth or 350mm, whichever is less. These amendments retroactively apply to all ships subject to the IGF Code.



1.2.2 Protection from fire and explosion of LNG fuel tanks (paragraphs 11.3.2.1 and 11.3.2.2 of the IGF Code)

Existing paragraph 11.3.2 of the IGF Code requires that any boundary of accommodation spaces, service spaces, control stations, escape routes and machinery spaces, facing fuel tanks on open deck, shall be shielded by A-60 class divisions, which extend up to the underside of the deck of the navigation bridge.

To clarify the protection requirements for LNG fuel tanks located above the open deck, existing paragraph 11.3.2 of the IGF Code was restructured to paragraphs 11.3.2.1 and 11.3.2.2 and amended as follows:

- Notwithstanding the existing requirements, any such boundaries facing the fuel tank on the open deck, which is separated by a minimum distance determined through a heat analysis to provide protection equivalent to an A-60 class division, shall be considered acceptable. Intermediate structures providing heat protection to the above spaces may also be considered acceptable. (paragraph 11.3.2.1)
- For oil tankers and chemical tankers, A-60 insulation as per SOLAS regulation II-2/9.2.4.2.5 for protection of Accommodation shall be considered to meet paragraph 11.3.2 of the Code, provided the fuel tanks are in cargo area forward of accommodation spaces, etc. (paragraph 11.3.2.1.1)
- Where no source of gas leak is possible from the fuel containment system such as type C tanks with tank connection spaces (TCS), A-60 insulation shielding is not required. (paragraph 11.3.2.1.2)

These amendments apply to ships constructed on or after 1 January 2028.

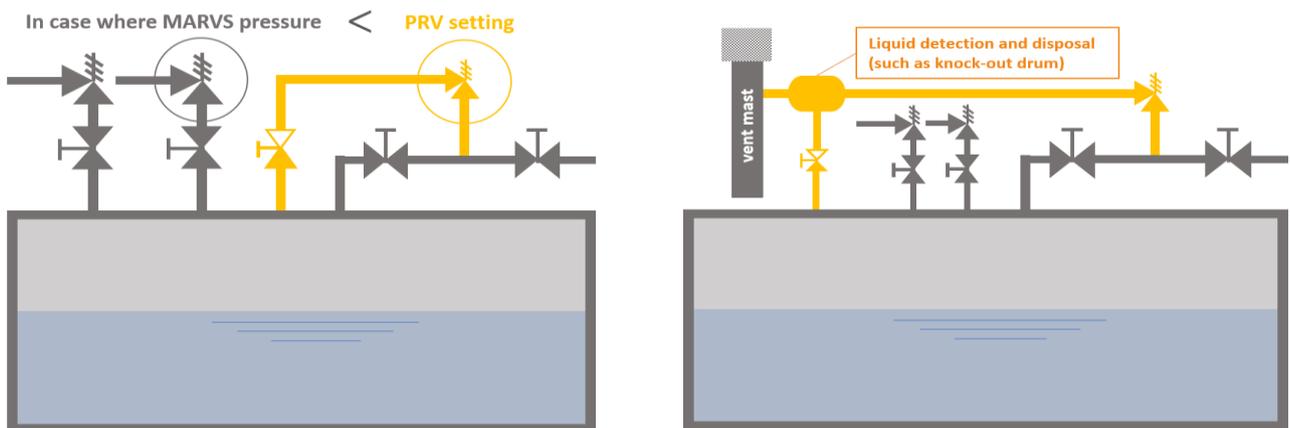
1.2.3 Arrangement for relieving over-pressure in LNG fuel pipelines (paragraphs 7.3.1.4 and 9.4.2 of the IGF Code)

Paragraph 7.3.1.3 of part A-1 of the IGF Code currently specifies that all pipelines or components which may be isolated in a liquid full condition shall be provided with pressure-relief valves. However, it lacks detailed

requirements on how the discharge line from the pressure-relief valve should be arranged. This contrasts with paragraph 5.2.2.4 of the IGC Code, which includes relevant provisions for this arrangement.

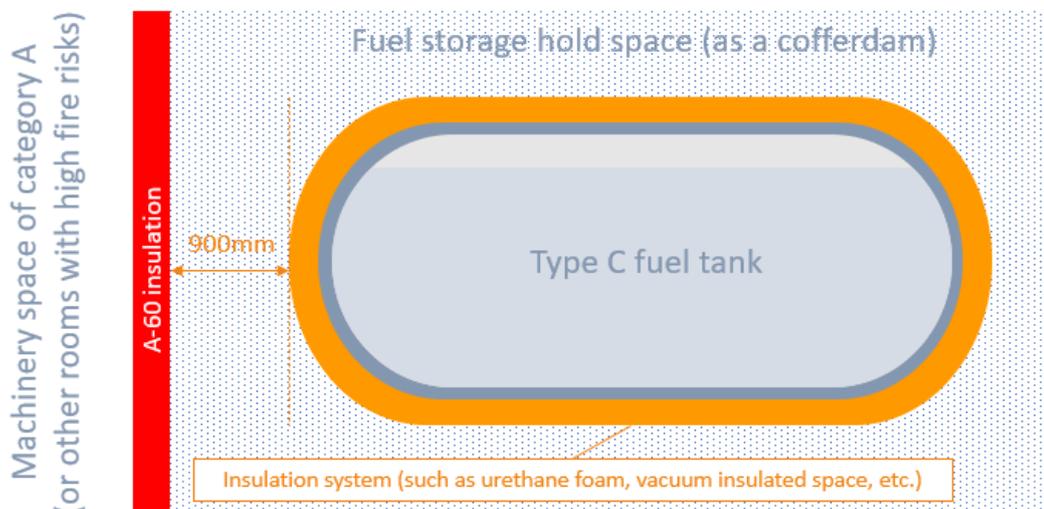
Given the discrepancy, there was an urgent need to establish corresponding requirements in the IGF Code. Consequently, MSC 109 adopted the amendments to paragraphs 7.3.1.4 and 9.4.2 of the IGF Code, which will apply to ships constructed on or after 1 January 2028, as follows:

- Pressure relief valves discharging liquid or gas from the piping system shall discharge into the fuel tanks whenever the tank MARVS pressure is lower than the setting of the pressure relief valves. Alternatively, they may discharge to the vent mast, if any liquid in the vent can be detected and disposed. (paragraph 7.3.1.4)
- Fuel tank inlets from pressure relief valve discharge line as per new paragraph 7.3.1.4 shall be provided with non-return valves in lieu of valves automatically closing at the time of emergency shut down. In addition, a safe means for tank isolation during maintenance will be also available without affecting proper operation of safety relief valves. (paragraph 9.4.2)



1.2.4 Clarification on the minimum distance between independent type C tank's surface and fuel storage hold space's A-60 boundary (paragraph 11.3.3.1 of the IGF Code)

Existing paragraph 11.3.3 of the IGF Code requires that the space containing the fuel containment system be separated from machinery spaces of category A or other rooms with high fire risks, by a cofferdam of at least 900 mm with A-60 class insulation. In this regard, the fuel storage hold space for type C tanks may be considered a cofferdam, provided the minimum distance between the outer shell of the type C fuel tank and the A-60 boundary of the fuel storage hold space is not less than 900 mm. However, it was unclear if the minimum distance of 900 mm should be calculated from the outer surface of the tank shell or its insulation system.

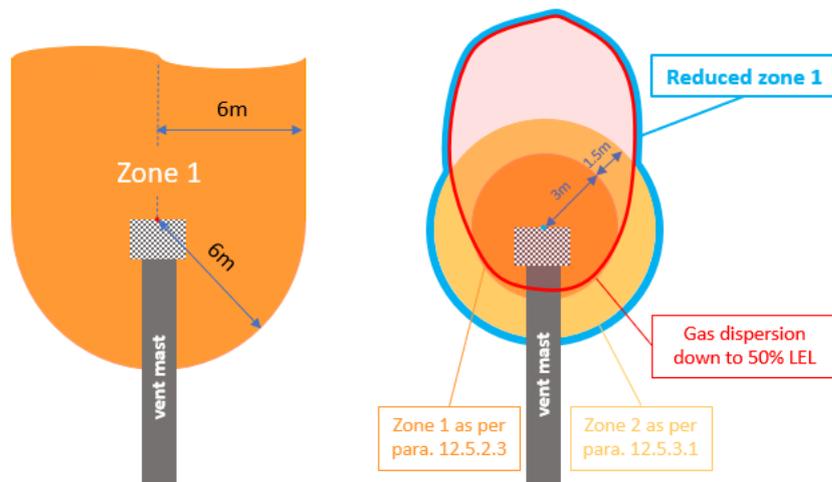


According to paragraph 11.3.3.1, as amended this session, the minimum distance shall be calculated from the outer surface of a type C tank's insulation system to provide sufficient protection thereto. For vacuum insulated type C tanks, the outer surface of the insulation system refers to the outer surface of the outer shell. These amendments apply to ships constructed on or after 1 January 2028.

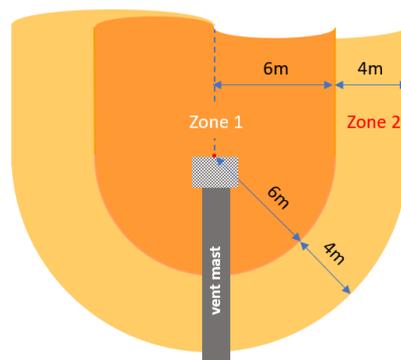
1.2.5 Classification of hazardous areas (paragraphs 12.5.2.3, 12.5.2.4, and 12.5.3.3 of the IGF Code)

To be consistent with the IGC Code and IEC 60092-502:1999, the classifications of hazardous areas have been amended, as follows, for application to ships constructed on or after 1 January 2028:

- Existing paragraph 12.5.2.3 of the IGF Code identifies the area on open deck or semi-enclosed spaces on deck within 3 m of the ventilation outlet from fuel preparation rooms (i.e. zone 1) as one of hazardous area zone 1. Given that the level of hazard from other zone 1 is not different than that of fuel preparation rooms, the amendment now classifies the areas within 3m of all ventilation outlets from zone 1 spaces, as hazardous area zone 1. (paragraph 12.5.2.3)
- To mitigate hazards in the event of a large gas leakage, an additional zone 1 area shall be designated around the fuel tank vent mast outlet. This area is defined as a cylindrical shape extending 6 m in radius from the center of the vent mast outlet (with no height restriction upwards) and a hemispherical shape with a 6-meter radius underneath it. However, if the vessel's size and layout make this application impossible, a reduced Zone 1 area may be accepted based on a dispersion analysis using 50% Lower Explosive Limit (LEL) criteria. In any case, this reduced Zone 1 area must not be smaller than the 3 m radius specified in paragraph 12.5.2.3 and shall include the hazardous area zone 2 meeting the dimensions given in paragraph 12.5.3.1 of the IGF Code (i.e. the areas within 1.5 m surrounding open or semi-enclosed spaces of zone 1). (paragraph 12.5.2.4)



- In lieu of paragraph 12.5.3.1 of the IGF Code, Zone 2 area shall be established in the areas surrounding 4 meters beyond the cylindrical and hemispherical Zone 1 area (6-meter radius) defined in the newly introduced paragraph 12.5.2.4. (paragraph 12.5.3.3)

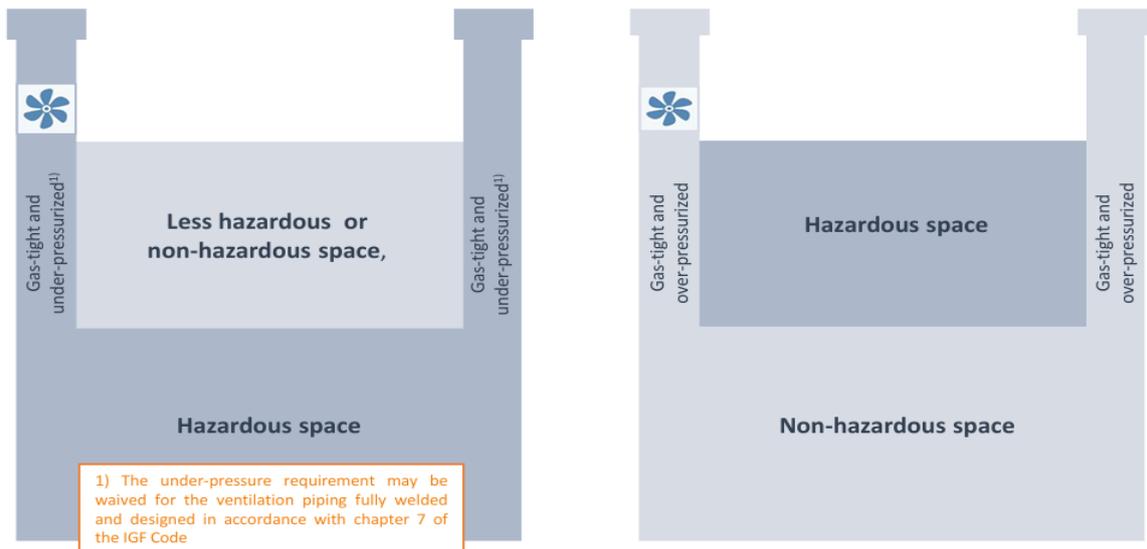


1.2.6 Arrangement of ventilation ducts penetrating other spaces (paragraphs 13.3.5, 13.3.8.1, and 13.3.8.2 of the IGF Code)

Existing paragraph 13.3.5 of the IGF Code requires that an intake duct serving either hazardous or non-hazardous space and passing through a more hazardous area shall be gastight with maintaining relative overpressure.

However, there is currently no safety requirement for air intakes serving hazardous areas when they pass through non-hazardous spaces or comparatively less hazardous spaces. Therefore, the amendments adopted at this session address this lack of safety requirements by deleting relevant parts in the existing paragraph 13.3.5 and by amending sub-paragraph 13.3.8.1 and establishing new sub-paragraph 13.3.8.2, as follows:

- Where a ventilation duct serving a non-hazardous space passes through a hazardous area, the duct must be gastight and maintain a relative over-pressure compared to the hazardous area. This amendment is not limited to intake ducts, unlike the deleted requirement in paragraph 13.3.5. (sub-paragraph 13.3.8.1)
- Where a ventilation duct serving a hazardous space passes through a less hazardous or non-hazardous space, the duct must be gastight and maintain relative under-pressure. However, for the ventilation piping fully welded and designed in accordance with chapter 7 of the IGF Code, the under-pressure requirement may be waived. (sub-paragraph 13.3.8.2)



Non-mandatory IMO instruments adopted or approved by MSC 109

After discussion under relevant agenda items, MSC 109 adopted or approved non-mandatory IMO instruments, as shown in the ensuing paragraphs.

2.1 MSC 109, after its consideration under agenda item 19, approved IMO instruments as follows:

2.1.1 Committee's method of work: its workload and unified interpretations

It is recalled that MSC 108 decided that the approval of unified interpretations should be based on consensus, rather than unanimity, provided that the following conditions are met.

- UIs should not amend mandatory requirements in Conventions and associated instruments;
- UIs should not go beyond the interpretation of mandatory requirements; and
- UIs should not contradict the mandatory requirements.

MSC 108 also agreed that the assessment of capacity-building implications of new or amended mandatory instruments should take place preliminarily by the submitters of new output proposal and finally by the Sub-Committee which develops new or amended mandatory requirements.

In addition, MSC 109 discussed and finalized a number of countermeasures to address the workload of the Committee and its subsidiary Sub-Committee.

Consequently, the above decisions were incorporated in the Committee's method of work, which was approved during this session. Once the draft document is co-approved by MEPC, it will be issued as MSC-MEPC.1/Circ.5/Rev.6.

Source: MSC 109/WP.10/Annex 1 and draft MSC-MEPC.1/Circ.5/Rev.6

2.2 After discussing the report of SSE 10, MSC 109 adopted or approved IMO Instruments as follows:

2.2.1 Unified interpretation of SOLAS regulations III/20.8.4 and 20.11 and resolution MSC.402(96)

While the maintenance, thorough examination, operating testing, overhaul and repair of rescue boats has been specified under SOLAS regulation III/20.11 to enforce resolution MSC.402(96)², the repair and maintenance of inflated rescue boats has been also stated under regulation III/20.8.4. Further, before the implementation of resolution MSC.402(96), the annual servicing of inflated rescue boats was subject to resolution A.761(18)³, based on IACS UR Z17⁴. As such, it was not sufficiently clear whether the annual servicing of inflated rescue boats should be conducted in accordance with SOLAS regulation III/20.11 and resolution MSC.402(96).



To address the ambiguity, MSC 109 approved a unified interpretation to clarify that SOLAS regulation III/20.11 and resolution MSC.402(96) should also be applicable to inflated rescue boats.

Source: SSE 10/20/Annex 3

2.2.2 Unified interpretation on the piping arrangement for safe gas-freeing

A series of fire incidents on board oil/chemical tankers revealed a potential safety issue arising from cargoes and/or cargo vapors present in the forecabin spaces, which are non-hazardous enclosed spaces. It was commonly observed throughout the accidents that cargo vapors entered the store located in ship's fore cabin via cargo piping connected to gas-freeing facilities. Sometimes, the connection of piping arrangements was installed without flag Administration's authorization but with the possibility of human errors.

Based on the general practice⁵ of IACS member societies, unified interpretations of SOLAS regulation II-2/4.5.6.1 and paragraphs 3.1.2, 3.1.4 and 3.5.3 of the IBC Code were approved to establish new requirements on air-supply fans and piping connected to cargo piping or tank for gas-freeing.

Air supply piping/ducts, if fitted, may only be connected to cargo piping or vent lines subject to the following conditions:

- The connection should be done by a detachable connection (e.g. spool pieces, detachable ducts/hoses, etc.) located in ship's cargo area. When not in use for gas-freeing, the detachable connection should be dismantled, and the pipe ends should be closed with blank flanges

² Resolution MSC.402(96): Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats, rescue boats, launching appliances and release gear

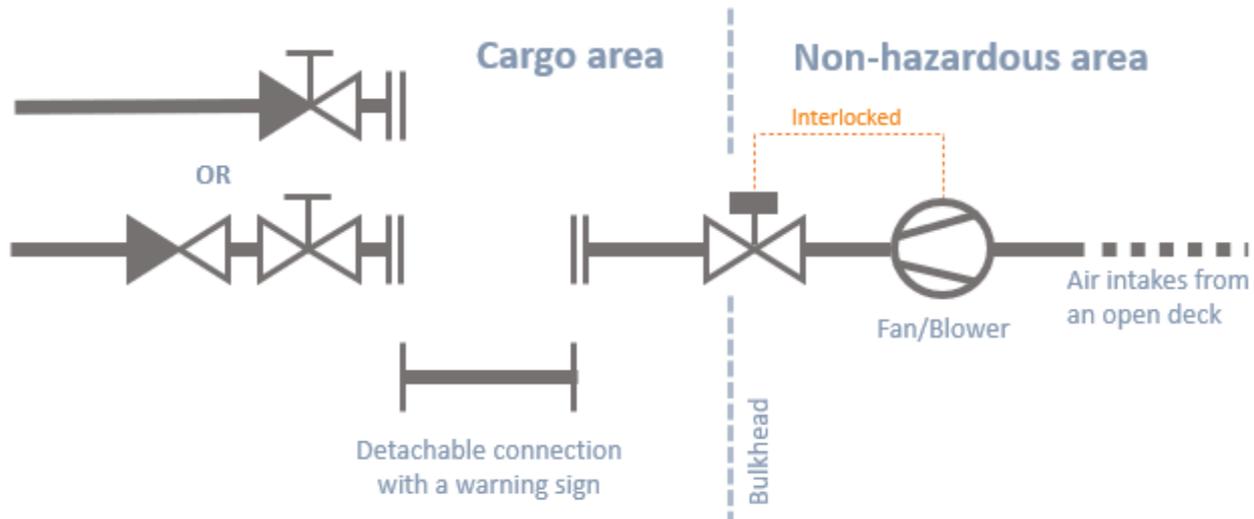
³ Resolution A.761(18): Recommendation on conditions for the approval of servicing stations for inflatable liferafts

⁴ IACS UR Z17: Procedural Requirements for Service Suppliers

⁵ Please refer to KR Rule Part 7, Guidance Chapter 1 Section 1 Paragraph 1002.3(2)(A)

- One non-return valve and one shut-off valve should be fitted between the detachable connection and cargo tanks. Alternatively, a single non-return valve with a positive means of closure may be accepted.
- One shut-off valve should be fitted at the side of fans or blowers. This valve should open being interlocked with the fan or blower's discharging pressure after their start, and automatically close in the event of their stop or loss of gas-freeing air pressure. The electric parts of this shut-off valve, if fitted in a hazardous area, should be of a certified safe type complying with IEC 60092-502:1999⁶.

Air supply fans or blowers should be of the non-sparking type, and their electrical motors should be of an explosion-proof type when fitted in the duct or located in the cargo area. Finally, suitable procedures should be provided to assist ship's crew in safely operating the relevant installations.



The interpretations apply to the arrangements installed in the non-hazardous area of oil tankers and chemical tankers on or after 1 January 2026. In this regard, tankers with inert gas systems are not expected to install a separate air supplying fan or blower in ship's non-hazardous area.

Source: SSE 10/20/Annex 4

2.2.3 Unified interpretation of SOLAS regulations II-2/4.5.3.2.2 and 11.6.3.2 on the secondary means for pressure/vacuum relief

SOLAS regulation II-2/11.6.3.2 requires a secondary means to prevent over-pressure or under-pressure of cargo tanks in the event of failure of the venting arrangements to pass large volume of vapor, air or inert gas mixtures during cargo operations. However, as an alternative to the secondary means, pressure sensors fitted in each tank may be accepted together with a monitoring system in ship's cargo control rooms.

In this regard, since 2011, IACS UI SC 140 (Rev.3), in its paragraph 5 and footnote, has specified that, for the pressure sensors as an alternative secondary means of venting, the settings of over-pressure and under-pressure alarms should be outside the pressure setting of the P/V valve but within the design pressures of the cargo tanks; and that they should be fixed with an exception permitted for ships using different pressure settings of P/V valves to transport different cargoes.

Given the amendments adopted by resolution MSC.392(95), the same interpretations submitted by IACS based on paragraph 5 of IACS UI SC 140 (Rev.3) were approved at this session.

Source: SSE 10/20/Annex 5

2.2.3 Unified interpretation on the crown of a machinery space of category A

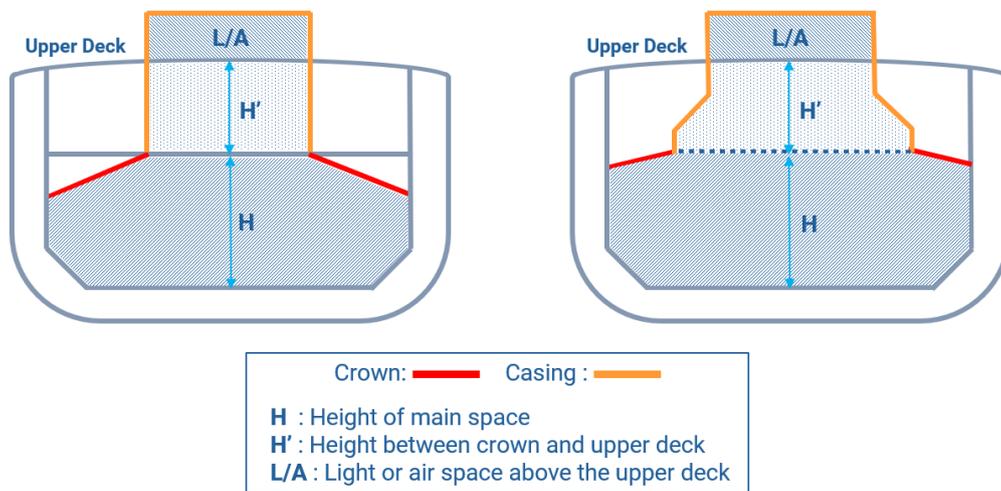
⁶ IEC 60092-502:1999 Electrical Installations in Ships Tankers

SOLAS regulation II-1/11.4.1 requires that crowns and casings of machinery spaces of category A shall be of steel construction with fire insulation as required by SOLAS regulation II-2/9. However, as the term "crown" is not currently defined under SOLAS regulation II-2/3, it may lead to a possible misunderstanding when applying the relevant requirements.

In this regard, unified interpretations were approved at this session to clarify that;

- The crown of a machinery space of category A means the underside of the deck and the uppermost horizontal part of the main space of the machinery space; and
- If the upper side bulkheads are sloping, the sloping parts of the bulkheads should be included in the crown.

The corresponding interpretation was adopted as IACS UI SC 302 for the application on ships contracted for construction on or after 1 July 2025. The crown may be as illustrated below:



Source: SSE 10/20/Annex 5

2.2.5 Revised unified interpretations of SOLAS regulations II-2 rectifying an oversight regarding references to SOLAS regulation II-2/9.7.5.1

It is recalled that, in 2023, MSC 107 expanded the application scope of the unified interpretations in MSC.1/Circ.1276 from galley exhaust ducts to any ducts subject to SOLAS regulations II-2/9.7.2 and 9.7.5 by approving MSC.1/Circ.1276/Rev.1. The interpretation clarifies how the trunks and ducts should be fire-insulated when passing through an enclosed space.

However, while sub-paragraph 2 under SOLAS regulation II-2/9.7.5 provides the requirements of exhaust ducts from galley ranges passing through accommodation spaces or spaces containing combustible materials, it does not specify any requirements relating to the fire insulation of the ducts.

Therefore, the reference of entire regulation II-2/9.7.5 in the interpretations was corrected to regulation II-2/9.7.5.1. The minor correction was approved at this session as MSC.1/Circ.1276/Rev.2.

Source: SSE 10/20/Annex 6 and MSC.1/Circ.1276/Rev.2

2.2.6 Unified interpretation of SOLAS regulation II-1/26.2 relating to single essential propulsion using a dual winding electric motor on passenger ships

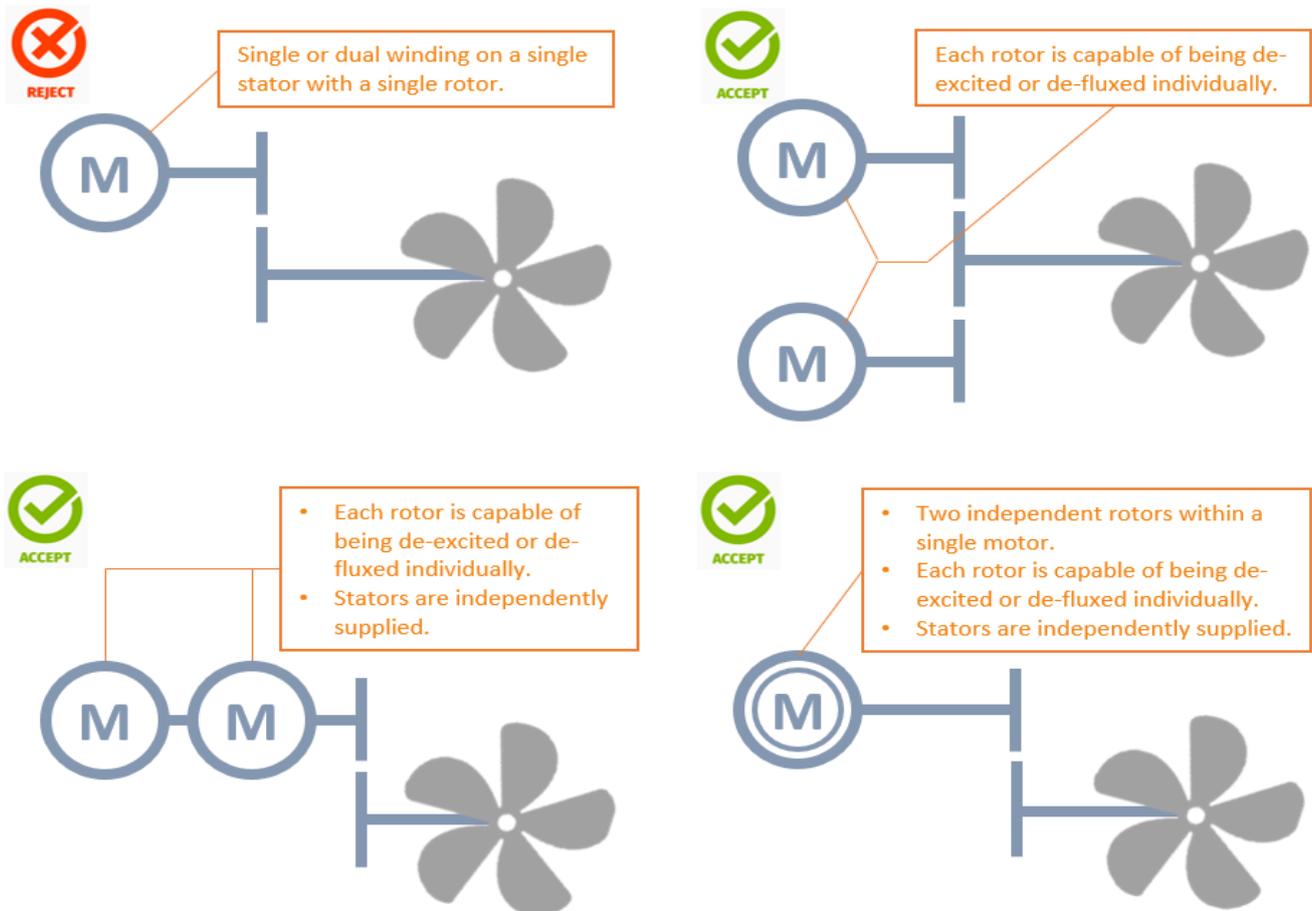
In accordance with SOLAS regulation II-1/26.2, special consideration shall be given to the reliability of single essential propulsion components and a separate source of propulsion power may be required to ensure ship's navigable speed, especially in the case of unconventional arrangements.

With the increasing number of electric propulsion motors used as ship's main propulsion, concerns were raised that a single electric propulsion motor arranged with dual windings within its stator (or rotor) may not provide sufficient redundancy, as damage to one of the windings may lead to the total loss of the propulsion motor.

After lengthy and repeated discussions within SSE Sub-Committee and MSC, unified interpretations were finally approved to address winding insulation failures and excitation failures of electric propulsion motors. The interpretations are as follows:

- A single electric propulsion motor (including both single and dual winding with a single rotor) should not be deemed to provide sufficient reliability required for ship's main propulsion. For such arrangements, a separate propulsion unit is required to ensure ship's navigable speed.
- Propulsion arrangements with two independent rotors on a single shaft may be accepted, provided it is possible to de-excite or de-flux each rotor individually and to supply the stators independently.

The illustrations below exemplify allowable and not allowable arrangements:



Due to strong opposition from an IMO member State, however, the application of the above interpretations is limited to the propulsion systems installed on passenger ships on or after 1 January 2026.

Source: SSE 10/20/Annex 7

2.2.7 Minor corrections relating to the assumed weight used to represent each person in self-righting tests for totally enclosed lifeboats



According to paragraph 4.4.2.2.1 of the LSA Code, as amended by resolution MSC.272(85), the average weight of a person used to calculate the capacity of lifeboats are respectively defined as 75kg for a passenger ship and 82.5kg for a cargo ship. Although these human weight criteria have been largely incorporated into the relevant requirements of resolution MSC.81(70) and MSC.1/Circ.1630/Rev.2, they were inadvertently omitted from the self-righting test requirements for totally enclosed lifeboats in these documents.

To address the omission, the following documents have been approved during this session:

- Resolution MSC.XXX(109), to amend paragraph 6.14.1.1 in part 1 of resolution MSC.81(70)⁷; and
- Revised standardized life-saving appliance evaluation and test report forms (survival craft) (MSC.1/Circ.1630/Rev.3), to update table 4.4.2.3 for application on survival craft installed on or after 15 August 2025

Source: SSE 10/20/Annexes 11 and 12, and MSC.1/Circ.1630/Rev.3

2.2.8 Minor corrections relating to retro-reflective materials used on life-saving appliances



It is recalled that MSC 102 approved resolution MSC.481(102)⁸ to replace resolution A.658(16), which provides the requirements for retro-reflective materials used on life-saving appliances. However, at that time, references to resolution A.658(16) in revised standardized life-saving appliance evaluation and test report forms were overlooked and not updated to resolution MSC.481(102).

To address this oversight and detail pertinent provisions, the following documents have been approved during this session from application on life-saving appliance installed on or after 15 August 2025:

- Revised standardized life-saving appliance evaluation and test report forms (personal life-saving appliances) (MSC.1/Circ.1628/Rev.3);
- Revised standardized life-saving appliance evaluation and test report forms (survival craft) (MSC.1/Circ.1630/Rev.3);
- Revised standardized life-saving appliance evaluation and test report forms (rescue boats) (MSC.1/Circ.1631/Rev.1); and
- Revised standardized life-saving appliance evaluation and test report forms (launching and embarkation appliances) (MSC.1/Circ.1632/Rev.1)

Source: SSE 10/20/Annexes 12 to 15, MSC.1/Circ.1628/Rev.3, MSC.1/Circ.1630/Rev.3, MSC.1/Circ.1631/Rev.1, and MSC.1/Circ.1632/Rev.1

⁷ Resolution MSC.81(70): Revised recommendation on testing of life-saving appliances

⁸ Resolution MSC.481(102): Revised recommendation on the use and fitting of retro-reflective materials on life-saving appliances

2.2.9 Revised standards for the design, testing and locating of devices to prevent the passage of flames into cargo tanks in tankers

MSC/Circ.677 is footnoted under SOLAS regulation II-2/4.5.3.3 as the guidelines on the design, testing and locating of safety devices that prevent the passage of flames into cargo tanks on tankers. This circular was partially revised by MSC.1/Circ.1009 and MSC.1/Circ.1324.

In this context, the ISO and IEC standards referenced in MSC/Circ.677, as amended, have been updated as follows:



	Old standards referenced in MSC/Circ.677, as amended	Updated standards
Explosion prevention	IEC Publication 79 IEC Publication 79-1	IEC 60097, Electric Apparatus for Explosive Gas Atmosphere
P/V valves	ISO 15364:2000, Ships and marine technology - Pressure/vacuum valves for cargo tanks	ISO 15364:2021, Ships and marine technology – Pressure-vacuum valves for cargo tanks and devices to prevent the passage of flame into cargo tanks

Incorporating the amendments included in MSC.1/Circ.1009 and MSC.1/Circ.1324, and updating the references to the ISO and IEC standards, MSC.1/Circ.677 was further amended and re-issued at this session as MSC.1/Circ.677/Rev.1. This new circular applies to the safety devices installed on or after the approval date plus 2 years (i.e. estimated application date: 6 December 2026).

Source: SSE 10/20/Annex 16 and MSC.1/Circ.677/Rev.1

2.3 After discussing the report of NCSR 11, MSC 109 adopted or approved IMO Instruments as follows:

2.3.1 Amendments to the IAMSAR Manual

IAMSAR Manual is a guidebook for international aviation and maritime search and rescue operations, which provide standardized procedures to ship and search and rescue operators. The revision of volumes 1 to 3 of the IAMSAR Manual was prepared by NCSR 11 and approved at this session through an MSC circular. These amendments should become applicable on 1 January 2026.

Source: NCSR 11/19/Add.2/Annex 4

2.3.2 New performance standards for digital navigation data system (NAVDAT)

The Digital Navigational Data System (NAVDAT) is an advanced communication system operating on the MF (500 kHz) and HF (4,226 kHz) bands, designed to receive maritime safety information (MSI) and search and rescue (SAR) data. Compared to NAVTEX, it supports both text and image data at significantly improved speeds.

In this regard, new performance standards for digital navigation data system (NAVDAT) was approved at this session. In addition to NAVTEX, EGC and HF NBDP, NAVDAT receiver will be accepted as a device capable of receiving MSI and SAR-related information as required in accordance with SOLAS regulation IV/7.1.4 with an immediate effective.

In conjunction with the aforementioned, resolution MSC.509(105)/Rev.1, titled "Provision of radio services for the GMDSS", was adopted at this session to establish criteria for shore-based facilities offering NAVDAT services. This resolution ensures that Administrations provide NAVDAT services from shore-based facilities in compliance with SOLAS regulation IV/5, thereby supporting the effective implementation of GMDSS.

Source: NCSR 11/19/Add.1/Annexes 5 and 6, and MSC.509(105)/Rev.1

2.3.3 Performance standards for shipborne Automatic Identification System (AIS)

It is recalled that the IMO assembly urged to promote actions to prevent illegal operation in the maritime sector through dark fleets. In this regard, it was recognized that there was an urgent need to establish measures to prevent unauthorized entry or tampering of ship's identity information in shipborne AIS.

To enhance the security aspects of AIS, performance standards for shipborne AIS in annex 3 to resolution MSC.74(69) was amended. The amendments identify ship's IMO number as one of the information that should be mandatorily included in shipborne AIS. If an IMO number is not required for a ship⁹, an official flag State number may be used.



The revised performance standards for shipborne AIS apply to the equipment installed on or after 1 January 2029

Source: NCSR 11/19/Add.1/Annex 15

2.3.4 Replacement or upgrade of shipborne VHF radio installations to allow communication using digital VHF channels



The updates to appendix 18 of the ITU Radio Regulations (edition 2020) reassigns certain VHF frequency bands to digital VHF channels. This change presents compliance challenges for the shipping industry, as ships should ensure their VHF radio installations align with the latest channel arrangements. While some ships may be able to upgrade their existing VHF radio installations through software or firmware updates, others may require complete replacement of their equipment to align with the new channel arrangements.

In this regard, MSC 109 issued MSC.1/Circ.1460/Rev.5, mandating and clarifying that all shipboard VHF radio installations should comply with the latest channel arrangements in appendix 18 of the ITU Radio Regulations, by the first radio survey on or after 1 January 2028.

Additionally, ships should have the capability to communicate via VHF radiotelephony with shore facilities in their operational areas, acknowledging that some administrations may adopt the new channels before 1 January 2028.

Source: NCSR 11/19/Add.1/Annex 20 and MSC.1/Circ.1460/Rev.5

2.4 After discussing the report of III 10, MSC 109 adopted or approved IMO Instruments as follows:

2.4.1 Interim guidance to assist in the implementation of the Cape Town Agreement 2012 relating to the safety of fishing vessels

The Cape Town Agreement 2012¹⁰ is yet to be ratified, while its entry into force and implementation will make a significant contribution to the safety of fishing vessels. In the meantime, interim guidance to assist in the implementation of the Cape Town Agreement 2012 was adopted during this session.

⁹ IMO numbers shall be mandatorily assigned to all passenger ships of 100 gross tonnage and upwards and to all cargo ships of 300 gross tonnage and upwards.

¹⁰ The Cape Town Agreement of 2012 on the Implementation of the Provisions of the Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977

Source: III 10/18/Annex 5

2.5 After discussing the report of CCC 10, MSC 109 adopted or approved IMO Instruments as follows:



2.5.1 Interim guidelines for the safety of ships using ammonia as fuel

MSC 109 approved the interim guidelines for the safety of ships using ammonia as fuel, excluding those covered under the IGC Code. These interim guidelines offer safety provisions for the arrangement, installation, control, and monitoring of machinery, equipment, and systems utilizing ammonia as fuel, aiming to minimize risks to the ship, its crew, and the environment, given ammonia's toxic nature.

Due to the non-mandatory status of these guidelines, their application to a ship requires authorization from the flag Administration as an equivalency to the IGF Code.

Source: CCC 10/16/Annex 1

Approval of draft amendments to mandatory IMO instruments for subsequent adoption by MSC 110

After discussing the reports of SSE 10, NCSR 11 and CCC 10, MSC 109 approved draft amendments to mandatory IMO instruments for subsequent adoptions at MSC 110 in 2025, as listed below. However, these draft amendments are not legally binding until the adoption of MSC in the future.

3.1 Lifejacket carriage requirements for high-speed craft (Expected implementation date: 1 January 2028)

To harmonize with the lifejacket carriage requirements in the 1994 and 2000 HSC Codes with those in SOLAS chapter III, paragraph 8.3.5 of each HSC Code will be amended to require additional lifejackets for infants and suitable accessories for oversize persons, as listed below:

- for passenger craft on voyages less than 24h, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board;
- for passenger craft on voyages 24h or greater, infant lifejackets for each infant on board; and
- on all craft, a sufficient number of suitable accessories for securing oversized persons, if the adult lifejackets provided are not designed to fit persons weighing up to 140kg and with a chest girth of up to 1,750mm,



As a result, the form of safety certificates for high-speed craft in annex 1 of each HSC Code will be also amended to record the number of lifejackets suitable for infants.

If adopted at MSC 110, the draft amendments will apply to existing high-speed craft no later than the date of the first renewal survey on or after 1 January 2028, and to new craft constructed(K/L) on or after 1 January 2028.

Source: SSE 10/20/Annexes 1 and 2

3.2 Minor corrections to SOLAS regulations II-2/11.2 and 11.4.1 relating to the applicable tables of fire integrity and insulation (Expected implementation date: 1 January 2028)

The references to the tables under SOLAS regulation II-2/9 were inaccurate within SOLAS regulations II-2/11.2 and II-2/11.4.1 concerning fire integrity standards for bulkheads and decks. Currently, SOLAS regulation II-2/11.2 references only the tables applicable to passenger ships, while SOLAS regulation II-2/11.4.1 refers solely to those for cargo ships. Those references should have been made to all tables regardless of ship types.

To address this error, both regulations will be amended to encompass all relevant tables under SOLAS regulation II-2/9, ensuring comprehensive guidance for both passenger and cargo vessels. This correction aims to enhance clarity and consistency in the application of fire safety standards.

Source: SSE 10/20/Annex 17

3.3 Pilot transfer arrangements (Expected implementation date: 1 January 2028)

To enhance the safety and standardization of pilot transfer arrangements, SOLAS Regulation V/23 has been comprehensively revised and approved during this session. These revisions aim to enhance safety practices and ensure better compliance with pilot transfer arrangements throughout the shipping industry. To support these changes, new technical provisions have also been prepared and consolidated as mandatory performance standards.

Based on the draft amendments to SOLAS regulation V/23, the forms of safety certificates in SOLAS, 1994 HSC Code, 2000 HSC Code and 2008 SPS Code will be revised to include the entries of pilot transfer arrangements.

Once adopted by MSC 110, the amendments will apply to pilot transfer arrangements installed on or after 1 January 2028. For the arrangements installed prior to this date, the revisions will retroactively apply as follows:

- For SOLAS ships, by the first survey on or after 1 January 2029; and
- For non-SOLAS ships, by 1 January 2030

Source: NCSR 10/19/Add.1/Annexes 8 to 12

3.4 Draft amendments to the IGC Code addressing a broad range of safety issues (Expected implementation date: 1 January 2028)

Through the comprehensive review of the IGC Code conducted since 2022, the CCC Sub-Committee developed the draft amendments to the IGC Code covering numerous safety issues and MSC 109 approved them. Once adopted by MSC 110, they will be issued as a consolidated version of the IGC Code.

Key updates include:

- **Incorporation of existing unified interpretations:** The draft amendments incorporate various unified interpretations approved as MSC circulars since the adoption of the 2014 amendments to the IGC Code (i.e. resolution MSC.370(93)).
- **Cargo tank filling limits:** Isolated vapor pockets within cargo tanks are no longer prohibited to allow the filling limit of cargo tanks greater than 98%. In addition, the filling limit greater than 98% is only applicable to type C tanks or tanks with MARVS exceeding 0.7 bar, provided that the arrangement has been verified and accepted by the Administration or its recognized organization (RO) based on appropriate risk mitigation measures to address higher design pressure.
- **LPG and ethane cargoes as fuel:** LPG and ethane are now included as cargoes that may be used as ship's fuel subject to compliance with relevant safety provisions newly established based on



MSC.1/Circ.1679¹¹.

- **Carriage of CO₂ cargo:** The classification of CO₂ products, previously divided into two categories, i.e. Carbon Dioxide (high purity) and Carbon Dioxide (Reclaimed quality), has now been combined into a single product, i.e. Carbon Dioxide. Furthermore, it has been determined that Carbon Dioxide will only be re-categorized as a toxic product under the IGC Code, thereby, significantly waiving the requirements applicable to flammable products.

These amendments, in principle, apply to ships constructed on or after 1 July 2016, unless otherwise determined in the respective modified provisions. However, except for certain specific provisions, amendments impacting ship's design or construction will apply to ships constructed(K/L) on or after 1 January 2028.



Source: CCC 10/14/Annex 4

3.5 Draft amendments to SOLAS chapter II-1 relating to the application of the IGF Code towards gaseous fuels (Expected implementation date: 1 January 2027)

Please refer to section 5.3 of this News Brief.

Source: MSC 109/WP.9/Annex 3

Autonomous ships: development of a goal-based MASS Code

4.1 MSC 109 established Working Group on MASS and continued to develop the draft non-mandatory MASS Code. The Working Group finalized chapters 7 (Risk Assessment), 12 (Connectivity) and 18 (Remote operation) of the draft Code, and discussed chapter 23 (Search and rescue).

It was decided that chapter 28 (Emergency Response) need not be retained but some of its components not overlapping with other chapters may be reorganized and incorporated into, such as, chapters 8 (Operational context) and 11 (Management of safe operation). Further, interested parties were invited to submit proposals for consideration at MSC 110 on the framework for development of ConOps.

Based on the discussion made to date, the draft MASS Code is structured with three parts, as summarized below. However, more discussion is needed to finalize the draft Code.

- Part 1 (introduction) addresses purpose, application, code structure, and terms and definitions.

¹¹ MSC.1/Circ.1679: Interim guidelines for use of LPG cargo as fuel

- Part 2 (main principles for MASS and MASS functions) specifies certificate and survey, approval process, risk assessment, operational context, system design, software principles, management of safe operations, radiocommunication, alert management, human element, and maintenance and repair.
- Part 3 provides goals, functional requirements and expected performance of all 13 chapters consisted of safety of navigation, connectivity, remote operations, etc.

Source: MSC 109/WP.8, Annex 1

4.2 To expedite the completion of the work on the non-mandatory MASS Code, it was decided that the fourth session of Inter-Sessional MASS working group will be convened between MSC 110 and MSC 111.

4.3 The Committee also updated the road map for developing a goal-based MASS Code, as found in Annex 2 of MSC 109/WP.8. The milestone of the road map were again postponed as shown below.

- finalization and adoption of the non-mandatory MASS Code at MSC 111 in 2026;
- an experience-building phase from 2026;
- commencement of developing the mandatory MASS Code from 2028; and
- the adoption of the mandatory MASS Code at a future session before 1 July 2030 for entry into force on 1 Jan 2032

Alternative fuels and new technologies for GHG reduction



5.1 Updating the list of alternative fuels and new technologies

During MSC 108, a wide range of alternative fuels and new technologies was identified, including but not limited to nuclear energy, solar and wind power, energy storage systems, energy-saving technologies, and onboard carbon capture and storage systems. MSC 109 continued the discussion on alternative fuel and new technologies for GHG reduction building upon the work of the correspondence group established by MSC 108.

Following the deliberations through a dedicated working group, MSC 109 updated the list of alternative fuels and new technologies. Amongst others, "swappable traction lithium-ion battery containers" was newly included as potential power sources for ships. Further work will be undertaken by a correspondence group to identify regulatory gaps, barriers, and relevant IMO bodies with a view towards addressing the reduction of GHG emissions from ships

5.2 Application of the IGF Code to gas carriers subject to the IGC Code

Based on the decision made at MSC 95, the IGF Code has not been applied to gas carriers subject to the IGC Code. However, the increasing use of LNG and alternative fuels has prompted the question about whether SOLAS regulation II-1/56.4 prevents the simultaneous application of the IGC and IGF Codes on gas carriers. In this regard, CCC 10 (September 2024) explored whether the IGF Code or other IMO instruments aligned with it may apply to

the fuel containment and supply system - independent of cargo systems - on gas carriers subject to the IGC Code. This issue was subsequently referred to MSC 109 for further consideration.

In this regard, MSC 109 engaged in extensive discussions but failed to reach a policy decision regarding the one-ship and one-code principle for gas carriers due to divided views and insufficient time. Consequently, the discussion will be carried forward to the next session.

5.3 Application of the IGF Code on ships using gaseous fuels with a flash point of 60°C and above

SOLAS part G, which mandates the IGF Code, provides requirements for ships using low-flashpoint fuels having a flash point below 60°C. This has created ambiguity on whether or not the IGF Code applies to ships using gaseous fuels with a flash point exceeding 60°C.

Following the discussions at MSC 108 and CCC 10, MSC 109 agreed to define the term “gaseous fuel” and include it to the application scope of the IGF Code by amending SOLAS chapter II-1. These amendments were approved during this session, with a view towards the adoption at MSC 110 and the entry-into-force from 2027 outside the four-year amendment cycle. Further works will be continued at MSC 110 to refine the definition of low-flashpoint fuel.

Source: MSC 109/WP.9/Annex 3

New work programs

MSC 109 deliberated on the new output proposals submitted to this session and approved them as listed below. The new output categorized as “Biennial” will be initiated with urgency by the Committee or responsible Sub-Committees within the period of the year 2026-2027, and the one categorized as “Post-biennial” will get started at an appropriate point after the period of the year 2026-2027.

New outputs approved by MSC 109	Responsible bodies	
Development of a transition scheme for the introduction of digital technology for Very High Frequency (VHF) voice communications	NCSR	Biennial (2026-2027)
Development of guidance to establish a framework for data distribution and global IP-based connectivity between shore-based facilities and ships for ECDIS S-100 products	NCSR	Immediate (2024-2025)

Any other issues

7.1 IACS Recommendation No.34 (Rev.2) provides an updated wave data set of North Atlantic Ocean, which will be used as a basis of amending IACS Common Structural Rules (CSR) for oil tankers and bulk carriers. In this regard, the outcome of GBS verification audit on IACS Recommendation No.34 (Rev.2) was considered during this session.



After extensive discussions, it was decided that IACS Recommendation No. 34 (Rev.2) would be revised to provide sufficient technical evidence and that the revised version, along with the IACS Common Structural Rules (CSR) developed based on it, would be verified through GBS audits. It was also emphasized that close collaboration between IACS and industry stakeholders is crucial during this process. Furthermore, it was recommended that the application of structural rules developed based on IACS Recommendation No. 34 (Rev.2) be refrained from until the revision is completed.

7.2 In accordance with SOLAS regulations V/7, V/10, and V/15, and COMSAR.1/Circ.32/Rev.2, GMDSS radio installations are required as summarized below to operate in sea area A3 through duplication of equipment.

Primary GMDSS radio installations	Duplicated GMDSS radio installations
VHF, MF and RMSS SES	VHF and RMSS SES
VHF, MF and RMSS SES	VHF and MF/HF

Through document MSC 109/21/2, concern was raised on the different understandings amongst stakeholders on whether a duplicated MF/HF radio installation, highlighted in bold in the table above, may simultaneously serve as a primary MF radio installation for sea area A3 based on COMSAR.1/Circ.32/Rev.2.

In this regard, MSC 109 reaffirmed that a duplicated MF/HF radio installation may simultaneously function as the primary MF radio installation for sea area A3. Furthermore, the IMO Secretariat was instructed to update the existing footnote No.6 in the table under paragraph 2.3 of COMSAR.1/Circ.32/Rev.2 to reflect this reaffirmed understanding.

7.3 ISO reported through document MSC 109/21 that ISO 18813:2006¹² referenced to paragraphs 4.1.5.1.18 and 4.1.5.1.19 of the LSA Code, i.e. food ration and fresh water, was withdrawn and had been replaced with ISO 18813:2022. After reviewing the updated ISO standards and considering the discrepancies between the updated ISO standard and the LSA Code, MSC 109 decided to refer it to the SSE Sub-Committee for further review and invited ISO to offer relevant information.

Should you have any questions, please contact P.I.C. Thank you.

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¹² ISO 18813: Survival equipment for survival craft and rescue boats