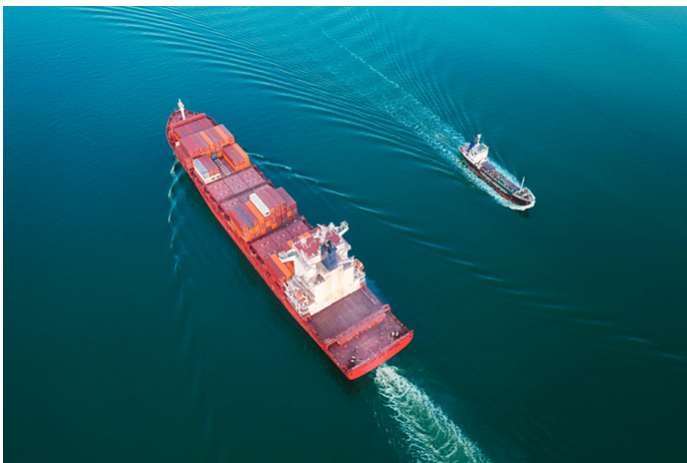


IMO MARITIME SAFETY COMMITTEE (MSC 109)

Relevant for ship owners, managers, seafarers, maritime training institutes and flag states.

December 2024

The 109th session of the IMO's Maritime Safety Committee (MSC 109) was held from 2 to 6 December 2024. Amendments to the IGC Code to enable the use of ammonia cargo as fuel were adopted, and interim guidelines for the general use of ammonia as fuel were approved. The IGF Code was amended to improve the safety of ships using natural gas as fuel. MSC 109 further approved draft SOLAS amendments to enhance the safety of pilot transfer arrangements and progress was made on the new safety code for Maritime Autonomous Surface Ships.



Meeting highlights

- Adopted amendments to the IGC Code to enable the use of ammonia cargo as fuel
- Adopted amendments to the IGF Code for ships using natural gas as fuel
- Approved draft interim guidelines for ammonia as fuel
- Approved draft amendments to SOLAS Regulation V/23 and the related performance standards to improve the safety of pilot transfer arrangements
- Advanced the non-mandatory Code on Maritime Autonomous Surface Ships (MASS)

Amendments to mandatory instruments

Ammonia cargo as fuel (IGC Code)

MSC 109 adopted amendments to Paragraph 16.9.2 of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) to enable the use of ammonia as fuel on ammonia carriers.

An MSC circular to encourage the voluntary early implementation of the amendments to Chapter 16 was approved.

The amendments will enter into force on 1 July 2026.

Safety of ships using natural gas as fuel (IGF Code)

MSC 109 adopted amendments to the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code), based on experience with the code since its entry into force in 2017.

The amendments include:

- Clarified application provisions
- Alignment with the IGC Code on suction wells for fuel tanks extending below the lowermost boundary of the tank
- Alignment with the IGC Code on discharge from pressure relief valves to discharge to tanks under certain conditions
- Clarified requirements to fire insulation for deck structures in relation to fuel tanks on open deck
- Clarified requirements for hazardous ducts through non-hazardous spaces and vice versa
- Updated requirements for the hazardous zone radius for fuel tank vent mast outlets, increasing to 6 metres for zone 1 and 4 metres for zone 2

The amendments will enter into force on 1 January 2028.

Goal-based new ship construction standards

Goal-based standards (GBS) for the new construction of bulk carriers and oil tankers are, conceptually, the IMO's rules for class rules. Under the GBS, IMO auditors use guidelines to verify the construction rules for bulk carriers and oil tankers of class societies acting as Recognized Organizations (Resolution MSC.454(100)).

Initial GBS verification of Biro Klasifikasi Indonesia (BKI)

BKI has requested GBS verification of their ship construction rules for bulk carriers and oil tankers. MSC 109 agreed that the BKI rules comply with the GBS, provided non-conformities and observations are rectified and verified in a new audit.

North Atlantic wave data (IACS Recommendation No. 34, Revision 2)

MSC 109 noted that IACS is currently undertaking a review of its Common Structural Rules (CSR) for bulk carriers and oil tankers to reflect advances in data, materials, technologies

and calculation methodologies. The CSR are implemented in the individual class rules of the IACS members, which are subject to compliance with the GBS.

MSC 109 further noted that IACS has now issued a revision of the North Atlantic wave data to ensure more scientific data as a basis for the rule formulas in the CSR. The new scatter diagram in Revision 2 of IACS Recommendation No. 34 shows the probability of occurrence of different sea states and is based on wave data from advanced hindcast wave models combined with ships' AIS data for all SOLAS vessels in the period from 2013 to 2020.

MSC 109 agreed that an observation from the initial CSR audit in 2015, that the scatter diagram in Revision 1 of IACS Recommendation No. 34 was based on past statistics, was now considered addressed.

MSC 109 further invited IACS to provide more information about the assumptions, modelling and technical background for Revision 2 of IACS Recommendation No. 34, and agreed that the GBS audit of the revision to follow should be carried out in conjunction with the consequential rule changes in the CSR.

Maritime autonomous surface ships (MASS)

The prospect of autonomous ships operating internationally with little or no human intervention has revealed the need for a regulatory framework for such ships, including their interaction and co-existence with conventional manned ships.

The current regulatory framework generally assumes manning and human intervention. The IMO has agreed to develop a non-mandatory, goal-based code for cargo MASS, potentially entering into force as a mandatory code upon experience with its application. The purpose of the code is to provide a framework to address both the remote control and the autonomous operation of key functions.

The non-mandatory MASS Code is planned to be finalized by 2026, followed by an experience-building phase after its adoption. A mandatory code is expected to enter into force on 1 January 2032, at the earliest.

MSC 109 finalized the chapters of the MASS Code on risk assessment, remote operations and connectivity. The chapters on remote operation and connectivity will apply depending on the mode of operation and the functionality being applied, which, for example, would open for a manned MASS with a periodically unmanned bridge, without the support of a remote operation centre.

The search and rescue obligations of a MASS to assist persons in distress were considered, but not concluded.

The non-mandatory MASS Code will be progressed in a Correspondence Group until MSC 110 (June 2025)

New technologies and alternative fuels

Identification of gaps in current IMO instruments
MSC 109 continued its consideration of potential alternative fuels and new technologies to support the reduction of GHG emissions from ships from a safety perspective. The intention is to identify safety obstacles, barriers and gaps in the current IMO instruments that may impede the use of the various alternative fuels and new technologies.

MSC 109 agreed to add "swappable traction lithium-ion battery containers" to the list of alternative fuels and new technologies. The list already includes fuels and technologies such as ammonia, hydrogen, fuel cell power installations, nuclear power, solar power, wind power, lithium-ion batteries and supercapacitor energy storage technology. Recommendations to address each of the identified barriers and gaps in the IMO regulatory framework will be considered in a Correspondence Group until MSC 110 (June 2025).

Application of the IGF Code

MSC 109 agreed on draft amendments to SOLAS to clarify that the IGF Code applies to ships using gaseous fuels, whether they are low-flashpoint or not. The term "gaseous fuels" was added to the definitions in SOLAS Regulation II-1/2 and to the application provisions of SOLAS Regulations II-1/56 and 57.

The draft amendments are expected to enter into force on 1 January 2027, subject to adoption by MSC 110 (June 2025).

Maritime cyber risk management

MSC 109 recognized the importance of cybersecurity standards for ships and port facilities, and invited for proposals on the next steps to enhance maritime cyber security.

Formal safety assessment

MSC 109 agreed to draft modifications to the Revised FSA Guidelines (MSC-MEPC.2/Circ.12/Rev.2). The draft modifications include an updated threshold for the cost-benefit assessment and improved guidance for the ranking of cost-efficient risk control options. In addition, the guidelines have been editorially reviewed to increase clarity and take into account experience gained.

Ship systems and equipment

Life jacket requirements in the High Speed Craft Codes

MSC 109 approved draft amendments to Paragraph 8.3.5 of Annex 1 of the 1994 and 2000 High Speed Craft (HSC) Codes to harmonize the life jacket carriage requirements in the codes with the corresponding requirements in SOLAS Chapter III with respect to the number of infant life jackets and accessories to adult life jackets to accommodate large persons.

The draft amendments are expected to enter into force on 1 January 2028, subject to adoption by MSC 110 (June 2025).

Maintenance of inflated rescue boats

MSC 109 approved a Unified Interpretation of SOLAS Regulations III/20.8.4 and 20.11, and of Resolution MSC.402(96), to clarify that the requirements for the maintenance, thorough examination, operational testing, overhaul and repair of rescue boats apply to all rescue boats, whether inflated or rigid.

Arrangement of gas-freeing piping/ducts on tankers

MSC 109 approved a Unified Interpretation 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 to facilitate the consistent implementation of the requirements to prevent the release of inflammable vapours into non-hazardous closed spaces.

Crowns and casings of machinery spaces of category A

MSC 109 approved a Unified Interpretation of SOLAS Regulation II-2/11.4.1 to clarify the term "crown" in machinery spaces of category A. The UI clarifies that the "crown" means the underside of the deck and the uppermost horizontal part of the main space of the machinery space, with exemplary sketches.

Secondary means of venting cargo tanks of tankers

MSC 109 approved a draft Unified Interpretation of SOLAS Regulations II-2/4.5.3.2.2 and 11.6.3.2 to clarify the pressure alarm settings for ships that apply pressure sensors in each tank as an alternative to having a secondary means of venting.

Reliability of essential propulsion components

MSC 109 approved a draft Unified Interpretation of SOLAS Regulation II-1/26.2 to clarify its application to dual winding electric propulsion motors for passenger ships. The draft Unified Interpretation addresses the risk of a non-repairable single failure in an electric propulsion motor.

Average mass of a person during lifeboat testing

MSC 109 approved a revision of Part 1 of Resolution MSC.81(70) on the testing of life-saving appliances and the test report forms in MSC.1/Circ.1630/Rev.2 to reflect that the average mass of a person should be 75 kilograms for lifeboats intended for passenger ships and 82.5 kilograms for lifeboats intended for cargo ships.

Retro-reflective materials on life-saving appliances

MSC 109 approved, as a minor corrections draft, consequential amendments to the Revised Standardized Life-Saving Appliance and Test Report Forms MSC.1/Circ.1628/Rev.2 (personal LSA), MSC.1/Circ.1630/Rev.2 (survival craft) and MSC.1/Circ.1632 (launching and embarkation appliances) to replace the reference to Resolution A658(16) with a reference to Resolution MSC.481(102) to reflect the most recent recommendation on the use and fitting of retro-reflective materials on life-saving appliances.

In addition, some minor details were added to MSC.1/Circ.1630/Rev.2 (survival crafts) and MSC.1/Circ.1631 (rescue boats).

Pressure-vacuum valves on cargo tanks in tankers

MSC 109 approved draft amendments to the "Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers" (MSC.1/Circ.677/Rev.1) to reference the 2021 edition of the ISO standard 15364, introducing a maximum leakage rate from pressure-vacuum valves.

The circular will apply to devices installed on or after 6 December 2026.

Minor correction to MSC.1/Circ.1276/Rev.1

MSC 109 approved draft amendments to MSC.1/Circ.1276/Rev.1 on Unified Interpretations to SOLAS Chapter II-2 to replace the reference to SOLAS Regulation II-2/9.7.5 with a reference to SOLAS Regulation II-2/9.7.5.1 to clarify that the Unified Interpretation related to exhaust ducts from galley ranges was intended for passenger ships carrying more than 36 passengers.

Correction of references to structural fire protection tables

MSC 109 approved a correction of two references in SOLAS Regulation II-2/11 to refer to the correct fire integrity tables in SOLAS Regulation II-2/9.

The amendments are expected to take effect on 1 January 2028.

Navigation, communications, search and rescue - check repo

Digital navigational data system (NAVDAT)

MSC 109 adopted performance standards for the NAVDAT system and amendments to Resolution MSC.509(105) on "Provision of radio services for the Global Maritime Distress and Safety System (GMDSS)".

NAVDAT is intended for broadcasting digital data, including maritime safety information (MSI) and search and rescue (SAR)-related information on medium frequency (MF) and high frequency (HF) bands from shore to ships.

Mobile satellite communication services in the GMDSS

MSC 109 approved a revision of the "Criteria for the provision of mobile satellite communication systems in the Global Maritime Distress and Safety System (GMDSS)" (Resolution A.1001(25)) based on experience gained when open for multiple recognized mobile satellite providers in the GMDSS. The new resolution will cover both new and already approved GMDSS Mobile Satellite Service providers.

The resolution is expected to be adopted by the Assembly in December 2025 and enter into force immediately thereafter.

Safety of pilot transfer arrangements

MSC 109 approved a draft revision of SOLAS Regulation V/23 and associated performance standards for pilot transfer arrangements. The intention is to ensure safe arrangements for pilots and other personnel embarking and disembarking ships in all conditions of draught and trim.

The draft amendments are expected to enter into force on 1 January 2028, subject to adoption by MSC 110 (June 2025). The requirements will be applied retroactively.

A draft MSC circular open for voluntarily early implementation of the amendments was approved.

Improvement of security and integrity aspects of AIS

MSC 109 approved a revision of the performance standards for the shipborne Automatic Identification System (AIS) (Resolution MSC.74(69)) to prevent the unauthorized entry or tampering of a ship's identity information in the AIS.

Validity of radiocommunications equipment

MSC 109 approved a revision of MSC.1/Circ.1460/Rev.4 to clarify that:

- The mandatory VHF/DSC equipment required by SOLAS Regulation IV/7 on radio equipment (including the required duplicated equipment for maintenance purposes) should comply with the latest channel arrangements in Appendix 18 of the Radio Regulations by the first radio survey scheduled on or after 1 January 2028, or earlier.
- Ships should always be able to communicate with shore facilities in their area of operation, noting that some administrations may already have implemented the new channels.

Carriage of cargoes and containers

Ammonia as fuel

MSC 109 approved draft interim guidelines for the safety of ships using ammonia as fuel.

Ships carrying liquefied gases in bulk (IGC Code)

MSC approved draft amendments to the IGC Code to incorporate the large number of Unified Interpretations developed since the latest major review of the code, which entered into force in 2016. The primary objective of the draft amendments is to remove ambiguity and promote the consistent implementation of the IGC Code requirements.

Implementation of IMO instruments

Lessons learned and analysis of marine safety investigation reports

MSC 109 approved a MSC circular to recommend that national administrations expand requirements for carriage of AIS and VHF for the domestic fishing fleet to prevent collisions.

Guidance on implementation of Cape Town Agreement

MSC 109 approved interim guidance to support implementation of the Cape Town Agreement.

The Cape Town Agreement (CTA) sets minimum requirements on the design, construction, equipment, surveys and certification of fishing vessels of 24 metres in length and over, or equivalent in gross tonnes. The agreement has now been

ratified by 22 states, with a combined fleet of about 2,600 fishing vessels. The number of states is sufficient, but a combined fleet of 3,600 fishing vessels is needed.

Work programme

MSC 109 agreed on the following new work items:

Sub-Committee on Navigation, Communications, Search and Rescue

Very high frequency (VHF) voice communications

MSC 109 agreed to the development of a transition scheme for the introduction of digital technology for VHF voice communications.

S-100 Electronic Chart Display and Information System (ECDIS)

MSC 109 agreed to the 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.

Any other business

Maintenance of radiocommunication equipment

MSC 109 recalled that the modernization of the GMDSS requirements in SOLAS Chapter IV was not intended to bring substantive changes to the radio installations on existing ships.

MSC 109 confirmed that for operating in sea area A3, a single MF/HF radio installation is accepted as a means to comply with the requirements of a primary MF radio installation and a duplicated MF/HF radio installation simultaneously. Footnote 6 of COMSAR.1/Circ.43/Rev.2 was amended to reflect this confirmation.

Recommendations

DNV recommends customers note that MSC 108 was the last session to adopt amendments to the 2026 update of SOLAS and related mandatory codes. The MSC is now working on updates of SOLAS and related mandatory codes, which will enter into force on 1 January 2028 and beyond. Amendments to the 2028 update must be adopted before 1 July 2026.

DNV further recommends that customers monitor the outcome of MSC 110 in June 2025.

Contact

For customers:

DATE - Direct Access to Technical Experts via [My Services](#) on Veracity.

Otherwise:

Use our [office locator](#) to find the nearest office.

Provisional list of resolutions and circulars

Please note that the list and document references are provisional.

RESOLUTION MSC.[...](109)

Amendments to the International Code for the Construction and Equipment of Ships carrying Liquefied Gases in Bulk (IGC Code)

RESOLUTION MSC.[...](109)

Amendments to the International Code of Safety for Ships using Gases or other Low-Flashpoint Fuels (IGF Code)

RESOLUTION MSC.[...](109)

Amendments to the Revised Recommendation on testing of Life-Saving Appliances (resolution MSC.81(70))

RESOLUTION MSC.[...](109)

Performance Standards for the reception of Maritime Safety Information and Search and Rescue related information by MF and HF Digital Navigational Data (NAVDAT) system

RESOLUTION MSC.509(105)/REV.1

Provision of radio services for the global maritime distress and safety system (GMDSS)

RESOLUTION MSC.[...](109)

Performance standards for a universal shipborne automatic identification system (AIS)

RESOLUTION MSC.[...](109)

Interim guidance to assist in the implementation of the Cape Town Agreement of 2012

MSC.1/Circ.[...]

Voluntary early implementation of the amendments to chapter 16 of the IGC Code

MSC-FAL.1/Circ.[...]

Guidelines concerning the recovery of deceased persons and of death after recovery

MSC.1/Circ.[...]

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

MSC.1/Circ.[...]

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

MSC.1/Circ.[...]

Unified Interpretations of SOLAS chapter II-2

MSC.1/Circ.1276/Rev.2

Revised unified interpretations of SOLAS chapter II-2

MSC.1/Circ.[...]

Unified interpretation of SOLAS chapter II-1

MSC.1/Circ.1628/Rev.3

Revised standardized life-saving appliance evaluation and test report forms (personal life-saving appliances)

MSC.1/Circ.1630/Rev.3

Revised standardized life-saving appliance evaluation and test report forms (survival craft)

MSC.1/Circ.1631/Rev.1

Revised standardized life-saving appliance evaluation and test report forms (rescue boats)

MSC.1/Circ.1632/Rev.1

Revised standardized life-saving appliance evaluation and test report forms (launching and embarkation appliances)

MSC.1/Circ.677/Rev.1

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

COLREG.2/Circ.[81]

Traffic separation schemes and associated measures

SN.1/Circ.[344]

Routing measures other than traffic separation schemes

MSC.1/Circ.[...]

Amendments to the IAMSAR manual

MSC.1/Circ.1460/Rev.5

Guidance on the validity of radiocommunications equipment installed and used on ships

SN.1/Circ.297/Rev.1

IALA maritime buoyage system

SN.1/Circ.296/Rev.1

IALA risk management toolbox for aids to navigation and vessel traffic services

MSC.1/Circ.[...]

Interim guidelines for the safety of ships using ammonia as fuel

MSC.1/Circ.[...]

Recommendations to national administrations to prevent collisions with fishing vessels

MSC.1/Circ.1164/Rev.29

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978

MSC.1/Circ.797/Rev.41

List of competent persons maintained by the Secretary-General pursuant to Section A-I/7 of the STCW Code