

IMO MSC 109 Meeting summary

9 January 2025



The 109th session of the IMO's Maritime Safety Committee (MSC 109) was held 2-6 December 2024 at the IMO headquarters, supplemented by hybrid (remote) participation. LISCR participated in the following group in addition to the plenary:

Group	Subject
Working Group 1	Maritime Autonomous Surface Ships (MASS)
Working Group 2	Safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels
Working Group 3	Working Group on Workload of the Committee
Drafting Group	Adoption of mandatory instruments

Adoption of amendments to mandatory instruments

MSC 109 adopted the following mandatory instruments. The Expected entry into force (EIF) date is indicated in ().

IGC Code (1 July 2026) (Resolution MSC.566(109))

Chapter 16 of the IGC Code currently prohibits the use of toxic cargo as fuel. However, MSC 109 has revised Chapter 16 to permit the use of ammonia as fuel.

The “early implementation” MSC circular was also approved for circulation (MSC.1/Circ.1681), which clarify:

- Voluntary early application prior to the entry into force; and
- Application to ships constructed on or after 1 July 2016.

IGF Code (1 January 2028) (Resolution MSC.567(109))

Key changes are:

- Align suction well distance from the bottom of the ship with the requirements of the IGC Code (new and existing ships) (Section 5.3);
- Clarifications of tank relief valves and overflow discharge arrangements (new ships) (Sections 7.4 and 9.4);
- Clarification of the fire protection for fuel preparation room (new ships) (Section 11.3);
- Clarification of the fuel tank protection (new ships) (Section 11.3); and
- Ventilation duct arrangements (new ships) (Sections 12.5 and 13.3).

Goal-Based New Ship Construction Standards

The discussion here does not focus on the technical aspects of the Goal-Based Construction Standards but rather on the implementation of the IMO's regulations pertaining to the Goal-Based Construction Standards (SOLAS Regulation II-1/3-10).

Acceptance of the Indonesian classification society

MSC 109 accepted that the rules of Biro Klasifikasi Indonesia (BKI) met IMO's Goal-based ship construction standards for bulk carriers and oil tankers, subject to the follow up action imposed by the IMO's audit.

IACS recommendation on wave data

Following various submissions to MSC 108 and MSC 109, there was extensive discussion regarding the amendments to the IACS recommendation on Standard Wave Data for the North Atlantic, particularly in the context of the IMO's audit of IACS rules. Concerns were raised about the reduction in average wave height, which could affect the IACS Common Structural Rules (CSR). MSC 109 agreed to conduct an additional audit of the recommendation, given its significant implications for ship design, construction, maintenance, and the safety of crews, passengers, and cargo.

Maritime Autonomous Surface Ships (MASS)

MSC 109 continued its work on the non-mandatory MASS Code. Due to the complexity of the task, the target completion date for the voluntary MASS Code has been extended to MSC 111 (scheduled for spring 2026).

Key discussions at MSC 109

- Search and Rescue Operations (SAR): MSC 109 agreed not to grant any exclusions to MASS. MASS must comply with all requirements applicable to ships;
- Emergency Response: While there will not be a single chapter dedicated to emergency response management, various chapters of the draft MASS Code include provisions for managing emergencies. Further work on these amendments will be carried out within the correspondence group;
- Equivalency: A proposal to reintroduce the term "equivalent" in the draft MASS Code argued that MASS should meet a safety standard comparable to conventional ships to align with existing IMO safety frameworks. MSC 109 decided not to reopen this discussion, as the MASS Code supplements basic instruments, making the term "Equivalency" unnecessary. However, the proposal may be revisited after the implementation of the voluntary MASS Code;
- Concept of Operations (ConOps): A submission proposed including a preliminary framework for ConOps in the MASS Code, detailing elements such as ship characteristics, operational waters, modes of operation, fallback states, and contingency plans. MSC 109 found the proposal useful and suggested it could work better as an annex to the code;
- Remote Operations: A submission proposed moving the principle of remote monitoring ("as appropriate and applicable") from Part 3 to Part 2 of the code. The chapter on "Remote Operations" remains in Part 3, addressing ships not connected to a ROC. Watchkeeping requirements for remote operators were made more flexible to accommodate different scenarios.

- Remote Operation Management: A submission provided comments on Chapter 11 of the draft MASS Code regarding Remote Operation Management (ROM). While the paper was not discussed in WG 1, it will be considered in the future.
- Data Quality and Management: A submission highlighted the importance of data quality for the safety of MASS and proposed a high-level approach to address this. However, the paper, sent to the working group, was not reviewed.
- MLC 2006 Matters: A submission raised issues about potential joint work between the IMO and ILO on MASS personnel. MSC 109 requested the IMO Secretariat to liaise with the ILO Secretariat on labour-related matters but did not address this issue further at this stage.

Safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels

Application of the IGF Code

MSC 109 prepared draft amendments to the SOLAS regulations, with a view to final adoption at MSC 110 for entry into force on 1 January 2027. Key changes are:

- Clear definition of “gaseous fuel”; and
- The application of the IGF Code is to be defined to cover not only low-flashpoint fuels but also gaseous fuels, ensuring that ammonia will be subject to the IGF Code

Swappable traction lithium-ion battery containers

MSC 109 agreed to include “swappable lithium-ion battery containers” in the new technology section, identified 19 gaps, and confirmed 11 of them for further consideration by the correspondence group regarding the use of lithium-ion battery containers.

Cyber risk management and cybersecurity

Revision to the IMO Guidelines

A submission suggested the establishment of cybersecurity standards for ships and ports based on the approved revised Guidelines on Cybersecurity Management (MSC-FAL.1/Circ.3/Rev.2). Another submission proposed extending the target completion date for the output on "Revision of the Guidelines on Maritime Cyber Risk Management (MSC-FAL.1/Circ.3/Rev.2) and identification of next steps to enhance maritime cybersecurity."

MSC 109 agreed on the need to further develop cybersecurity standards for ships and port facilities, with the possibility of establishing a working group at the next session.

Piracy and armed robbery against ships

The IMO Secretariat reported on developments related to piracy and armed robbery against ships since MSC 108.

- From data received by IMO through the GISIS platform, it emerges that the areas most affected by acts of piracy and armed robbery against ships in January to June 2024 were the Straits of Malacca and Singapore area (37), Indian Ocean (13), West Africa (10), Arabian Sea (7), followed by the South China Sea (4) and South America (Atlantic) (1).
- There is a general reduction in piracy and armed robbery against ships between January to June 2024 from 90 incidents to 72 incidents for same period of 2023. Further details, including regional trends and developments throughout 2024, will be provided in the Secretariat's Reports on acts of piracy and armed robbery against ships, Annual Report – 2024, to be released in April 2025.

Unsafe mixed migration by sea

How to handle a deceased person in a migrant boat has been an issue since MSC 106. Following an intense discussion, MSC 109 approved the MSC-FAL circular on *Guidelines concerning the recovery of deceased persons and of death after recovery* (MSC-FAL.1/Circ.4) and agreed to forward it to the Facilitation Committee for its concurrent approval.

Formal safety assessment

MSC 109 recalled that the two previous 2019 and 2023 sessions of the FSA Experts Group had provided some recommendations to improve *the Revised guidelines for Formal Safety Assessment (FSA) for use in the IMO rule-making process* (MSC-MEPC.2/Circ.12/Rev.2)).

MSC 109 approved the draft revision of MSC-MEPC.2/Circ.12/Rev.2 on *Revised guidelines for formal safety assessment (FSA) for use in the IMO rule-making process*.

The Key changes include

- Clarification of terminology;
- Data usage in concluding expert judgment;
- Special attention to severe or catastrophic events that are expected to occur with a very low frequency (extremely remote) and for which no historical data is available;
- Verification of the accuracy of the risk model; and
- Consideration of future technology in assessing Risk Control Measures (RCMs) and cost benefit analysis.

Outcome of the 10th Session of the Sub-Committee on Ship Equipment and Systems

Isolation of non-hazardous spaces

MSC 109 approved MSC.1/Circ.1683 on *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*, on cargo/vapour piping and related gas-freeing piping/ducts on tankers, with the effective date of 1 January 2026. The interpretation stipulates that all cargo piping (including cargo tank venting piping, relief valve discharge piping, cargo tank purging and gas-freeing piping/ducts), except those serving for inerting gas supply and for bow or stern loading and unloading arrangement, should be arranged within the cargo areas. However, gas-freeing air-

supply fan(s)/blower(s) and related air-supply piping/ducts may be located in the forecastle area with isolation arrangements. The interpretation also addresses the operational procedures.

Interpretation of SOLAS Chapter II-2

MSC 109 approved MSC.1/Circ.1684 on *Unified interpretations of SOLAS chapter II-2*, concerning consistent application of SOLAS regulation II-2/11.4.1 on the crown of a machinery space of category A as the underside of the deck and the uppermost horizontal part of the main space of the machinery space. The interpretation also includes SOLAS regulations II-2/4.5.3.2.2 and 11.6.3.2 on the secondary means of venting cargo tanks regarding P/V valve alarm setting.

Single essential propulsion component

MSC 109 approved MSC.1/Circ.1685 on Unified interpretation of SOLAS Chapter II-1 on SOLAS regulation II-1/26 concerning single essential propulsion components, with the effective date of 1 January 2026. The key features of the interpretation are:

- Single electric propulsion motors (both single and dual winding with a single rotor) for main propulsion should not be considered to provide the reliability required for a single essential propulsion component. A separate propulsion unit sufficient to give the ship a navigable speed should be required for such arrangements; and
- Propulsion arrangements with two independent rotors on a single shaft should be considered to provide the required reliability, provided it is possible to de-excite or de-flux each of the rotors individually and independently supply the stators.

Revision of MSC/Circ.677 on P/V valves

MSC 109 approved MSC/Circ.677/Rev.1, on *Standards for the design, testing and locating of devices to prevent the passage of flame into cargo tanks in tankers*, with the effective date of 4 December 2026. The change relaxes the leakage ratio.

Outcome of the 11th Session of Sub-Committee on Navigation, Search and Rescue and Communication

Routeing measures

MSC 109 adopted the following measures:

- the amended traffic separation schemes and associated measures in the approaches to Hook of Holland and at North Hinder, to be implemented from 00:00 hours UTC on 1 July 2025, and approved COLREG.2/Circ.81 on Traffic separation schemes and associated measures containing the above-mentioned amended measure; and
- the revised Recommendation on navigation for containerships in traffic separation schemes Off Vlieland, Terschelling-German Bight, Off Friesland and German Bight western approach, and the Areas to be Avoided around oil rigs off the Brazilian coast – Santos Basin, to be implemented from 00:00 hours UTC on 1 July 2025, and approved SN.1/Circ.344 on *Routeing measures other than traffic separation schemes containing the above-mentioned measures*.

Draft Assembly resolution on Charges for distress, urgency and safety communications messages through recognized mobile satellite services in the GMDSS

MSC 109 approved the revision to resolution A.707(17) on *Charges for distress, urgency and safety communications through recognized mobile satellite services in the GMDSS* for adoption by the 34th Session of the IMO Assembly (A 34).

These amendments are to accommodate non-geostationary satellite services without any major changes to the charging scheme.

Amendments to the IAMSAR Manual

MSC 109 approved MSC.1/Circ.1686 on *Amendments to the IAMSAR Manual*, with the application date on 1 January 2026. The amendments include volumes I, II and III of the manuals.

NAVDAT

MSC 109 adopted resolution MSC.569 on *Performance standards for the reception of maritime safety information and search and rescue related information by MF and HF digital navigational data (NAVDAT) system*. The performance standards also requires compliance with the one for NAVTEX (MSC 508(105)) so that a NAVDAT receiver can receive both NAVDAT and NAVTEX signals.

MSC 109 also adopted a revision to resolution MSC.509(105) on *the revised Recommendation on the provision of radio services for the Global Maritime Distress and Safety System (GMDSS)*. This revision addresses the criteria for providing shore-based digital selective calling (DSC) facilities for use in the GMDSS, establishing GMDSS sea areas, and providing a NAVTEX service.

MSC 109 confirmed that the carriage of NAVDAT equipment was not mandated under the 1974 SOLAS Convention and that the provision of radio services for the GMDSS was determined by SOLAS Contracting Governments. MSC 109 also noted that NAVDAT implementation would continue to be considered by the NCSR Sub-Committee.

Satellite service in GMDSS

MSC 109 approved the draft Assembly resolution on *Criteria for the provision of mobile satellite communication systems in the Global Maritime Distress and Safety System (GMDSS)*, revising and revoking resolution A.1001(25) and MSC.1/Circ.1414, and invited A 34 to adopt it. The draft resolution addresses non-geostationary recognized mobile satellite services.

Pilot transfer arrangements

The mandatory requirements for safe pilot transfer are found in regulation 23 of Chapter V of SOLAS 1974. Detailed recommendations to Member Governments on the construction and rigging of pilot transfer arrangements are found in IMO Assembly resolution A.1045(27), as amended. In addition, a poster illustrating boarding arrangements for pilots was issued as MSC.1/Circ.1428.

MSC 109 approved the following for final adoption by MSC 110. Entry into force is expected to be 1 January 2028.

- Draft amendments to SOLAS regulation V/23 on Pilot transfer arrangements and the appendix (Certificates);
- Draft mandatory performance standards for pilot transfer arrangements, including the revocation of resolutions A.1045(27) and A.1108(29), will take effect after the entry into force, with a lead-in time to consider;
- Consequential draft amendments to the 1994 and 2000 HSC Codes and the 2008 SPS Code;
- Draft MSC circular on voluntary early implementation of the amendments to SOLAS regulation V/23 on pilot transfer arrangements.

MSC 109 also agreed to the draft MSC circular on Required pilot transfer arrangements for pilots and other personnel, revising MSC.1/Circ.1428, with an effective date to be determined at MSC 110.

Further, MSC 109 approved in principle, the amendments to the Code of Safety for Fishermen and Fishing Vessels, 2005, which was sent to ILO and FAO for confirmation and concurrent approval before final approval by MSC 110.

AIS related matter

Performance standard

MSC 109 approved the following outcome of NCSR 11:

- From a technical standpoint, there were no inherent safeguards to prevent manipulation of AIS equipment due to the open nature of the AIS protocol;
- The IMO number should not be permanently entered into the AIS equipment but once entered, it should be further protected from unauthorized modification. In addition, there must be another form of identification number (e.g. official flag State number);
- There should be vendor ID numbers for new AIS; and
- AIS would remain susceptible to manipulation by malicious actors due to its inherently open nature and that the equipment could be freely purchased on the market, as replacement equipment. Nonetheless, these measures could serve as a deterrent and make such actions more challenging than they are now.

Accordingly, MSC 109 adopted Resolution MSC.570(109) on *Performance standards for a universal shipborne automatic identification system (AIS)*, for new installations.

VHF communication

While there was a shift in the VHF channel due to the change of the ITU regulation, owing to lack of available equipment, the IMO dispensed installation of compliant radio equipment until 1 January 2028. To ensure ship-shore communication can be established, NCSR 11 prepared draft amendments to *Guidance on the validity of radiocommunications equipment installed and used on ships*, which was approved as MSC.1/Circ.1460/Rev.5 by MSC 109. The revised circular reminds stakeholders that some shore authorities have already started using the new radio channels.

IALA Maritime Buoyage System

IALA proposed a draft revision of SN.1/Circ.297 on IALA Maritime Buoyage System to inform Member States of the revised system adopted at the 14th IALA General Assembly. MSC 109 approved the proposal as SN.1/Circ.297/Rev.1.

IALA Risk Management Toolbox

MSC 109 approved SN.1/Circ.296/Rev.1 on *IALA Risk Management Toolbox for aids to navigation and vessel traffic services*, revising and superseding SN.1/Circ.296.

Radar SART

MSC 109 approved SN.1/Circ.345 on *Difficulties and risks involved in the setting of radar displays to correctly visualize radar SAR transponder (SART) signals*.

Outcome of the 10th Session of Sub-Committee on Carriage of Cargoes and Containers

Due to the close proximity of the MSC 109 meeting, MSC 109 consider only urgent matters.

Ammonia fuel

CCC 10 developed the Interim Guidelines for Ships Using Ammonia as Fuel, which was approved as MSC.1/Circ.1687 on *Interim guidelines for the safety of ships using ammonia as fuel*.

The key features of the guidelines are:

- Application: Ships subject to the IGC Code are governed by the IGC Code, not these guidelines (See “Adoption of amendments to mandatory instruments above”);
- Toxic Area and Space Classification: As the current fire hazard zone classification is inadequate, the guidelines were developed using analysis-based criteria, with 220 ppm established as the threshold;
- Safe Haven: Provisions for safe havens, allowing refuge for all people on board in case of an ammonia release, have been introduced;
- Leak Detection and Control: Detection levels (25 ppm/110 ppm/220 ppm depending on location), alarm systems (depending on manned/unmanned locations), and gas detectors (two detectors are required for a voting system) were developed, while remaining high-level;
- Machinery space protection: Machinery spaces containing ammonia fuel systems and/or ammonia fuelled machinery should be arranged such that the spaces may be considered gas safe under all conditions, normal as well as abnormal conditions;
- Fuel Supply System: Automatic shut-off valves and emergency ventilation to remove residual ammonia from the fuel line were agreed upon;
- Ammonia Release: Under normal operation, there should be no direct release of ammonia. In cases where release is foreseeable, controllable, and necessary, provisions for ammonia treatment systems are required to minimize the amount of released ammonia. Uncontrolled and untreated ammonia release should only occur in catastrophic situations;
- Bunkering: Requirements include a vapour return line, a method to confirm the absence of residual liquid fuel in bunkering pipes, sampling arrangements, testing requirements for fuel hoses, and dry-disconnection protocols;
- Material: Prescriptive/restrictive use of specific materials was agreed upon, with references to the IGF Code; and
- Training: The matter was referred to the Sub-Committee on Human Element, Training, and Watchkeeping (HTW) for further development.

Revision to the IGC Code

CCC 10 completed the work on the next set of amendments to the IGC Code, for approval by MSC 109 and subsequent adoption by MSC 110. The expected entry into force date is 1 January 2028. While amendments requiring changes in design or construction shall apply to new ships only, operational requirements will apply to both new and existing ships (those constructed between 1 July 2016 and 1 January 2028). The key changes are introduced below:

- Clarifications were made regarding the design of cargo tanks, piping, venting systems, and fire safety provisions;

- The testing requirements for cargo tank level alarms have been revised to accept alternative arrangements that do not involve raising the liquid level, subject to approval by the flag Administration;
- The filling limit, including conditions for filling cargo tanks above 98%, was updated, and requirements for preventing the formation of vapour pockets were removed;
- The use of LPG cargo as fuel has been included in Chapter 16 as a generic high-level functional requirement. For guidance on using ammonia cargo as fuel, see agenda item 3;
- The carriage of CO₂ as cargo, now categorized as toxic cargo, was introduced. This applies to all ships constructed on or after 1 July 2016. Additionally, the carriage of volatile organic compound (VOC) condensate was added to Chapter 19 (Summary of Minimum Requirements) for ships constructed on or after 1 July 2016. The application of these requirements to ships constructed before this date is at the discretion of the flag Administration; and
- Chapter 18 of the Code, which addresses operational requirements, underwent editorial revisions for table 18.1 (Shutdown-Related Systems – Cause and Effect Functions) to improve clarity. These changes apply to ships constructed on or after 1 July 2016.

With regard to the application of the IGF Code for Gas carriers that have separate fuel system (not cargo) MSC 109 could not conclude the matter and will be discussed further at MSC 110.

Outcome of the 10th Session of the Sub-Committee on Implementation of IMO Instruments

Collision with fishing vessels

MSC 109 approved MSC.1/Circ.1688 on *Recommendations to national Administrations to prevent collisions with fishing vessels*, which was developed taking into account the findings of the analysis of investigation reports and the survey circulated through III.3/Circ.12 on *Casualty investigation questionnaire on fishing vessel collisions (2018-2022)*.

Any other business

MF/HF Radio

MSC 109 approved COMSAR.1/Circ.32/Rev.3 on *Harmonization of GMDSS requirements for radio installations on board SOLAS ships*, superseding COMSAR.1/Circ.32/Rev.2 with immediate effect. The amendments revise footnote no. 6 of the table beneath paragraph 2.3 to read:

"6 A single MF/HF radio installation may be accepted both as a primary MF radio installation and a duplicated MF/HF radio installation, as provided in this circular."

Further information

For further information please contact: imo@lisr.com

Annex

Provisional list of approved/adopted circular/resolution

ID	Title
MSC566(109)	Amendments to the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC code)
MSC.567(109)	Amendments to the International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels (IGF Code)
MSC.568(109)	Amendments to the Revised Recommendation on Testing of Life-Saving Appliances (Resolution MSC.81(70))
MSC.569(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
MSC.509(105)/REV.1	Provision of Radio Services for the Global Maritime Distress and Safety System (GMDSS)
MSC.570(109)	Performance Standards for a Universal Shipborne Automatic Identification System (AIS)
MSC.571(109)	Interim Guidance to Assist in the Implementation of the Cape Town Agreement of 2012
MSC.1/Circ.1681	Voluntary early implementation of the amendments to chapter 16 of the IGC Code
MSC-FAL.1/Circ.4	Guidelines concerning the recovery of deceased persons and of death after recovery
MSC.1/Circ.1682	Unified interpretations of SOLAS regulations III/20.8.4 and 20.11, and resolution MSC.402(96)
MSC.1/Circ.1683	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.1684	Unified Interpretations of SOLAS chapter II-2
MSC.1/Circ.1276/Rev.2	Revised unified interpretations of SOLAS chapter II-2
MSC.1/Circ.1685	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	Routeing measures other than traffic separation schemes
MSC.1/Circ.1686	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
SN.1/Circ.345	Difficulties and risks involved in the setting of radar displays

	to correctly visualize radar SAR transponder (SART) signals
MSC.1/Circ.1687	Interim guidelines for the safety of ships using ammonia as fuel
MSC.1/Circ.1688	Recommendations to national administrations to prevent collisions with fishing vessels
COMSAR.1/Circ.32/Rev.3	Harmonization of GMDSS requirements for radio installations on board SOLAS ships
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