

Supplementary materials for June 2026

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➤ International Maritime News

I. ICS: OCCS could play significant role in shipping's decarbonization



Source: SAFETY4SEA.

Derived from the Editorial Team from Safety4sea, June 9, 2026. Article in Emissions: ICS: OCCS could play a significant role in shipping's decarbonization.

<https://safety4sea.com/ics-occs-could-play-significant-role-in-shippings-decarbonization/>

The [Onboard Carbon Capture and Storage \(OCCS\) Review](#) was commissioned by the International Chamber of Shipping (ICS) and published by the consultancy division of Lloyd's Register (LR).

During this transitional period, where global zero-carbon alternative fuels (such as green ammonia and green methanol) have not yet reached industrial-scale supply, Onboard Carbon Capture and Storage (OCCS) is increasingly viewed as a vital compliance solution for both existing fleets and newbuilds to meet tightening greenhouse gas (GHG) regulations.

There are four main highlights and strategic implications of the report, which are summarized below:

1. Regulatory Gaps and Challenges

- **Unclear Carbon Offset Mechanisms:** Existing International Maritime Organization (IMO) mechanisms—such as the Energy Efficiency Existing Ship Index (EEXI), Energy Efficiency Design Index (EEDI), and Carbon Intensity Indicator (CII)—do not currently provide a framework to credit "captured carbon" as an offset. This creates ongoing uncertainty regarding how to account for fuel penalties and lifecycle emissions.
- **Divergence in EU Regulations:** While the EU Emissions Trading System (EU ETS) and the Monitoring, Reporting, and Verification (MRV) mechanism have partially recognized verified CO₂ storage, the FuelEU Maritime regulation has not yet incorporated OCCS into its carbon reduction calculations (with a review not expected until 2027). This limits near-term commercial incentives.
- **Legal Barriers to Cross-Border Transport:** The transboundary transport and offloading of captured CO₂ face severe regulatory hurdles. However, the *International Convention for the Prevention of Pollution from Ships (MARPOL)* still lacks handling standards for OCCS; the amendments to the London Protocol regarding CO₂ export have not yet fully entered into force; and under the Basel Convention, captured CO₂ may be classified as "waste" in certain jurisdictions, significantly increasing the complexity of cross-border processing procedures.

2. Technical Readiness and Vessel Adaptability

- **Current Technical Status:** Post-combustion amine absorption is currently the most mature technology, capable of achieving a CO₂ purity of up to 99.9%, which is highly advantageous for downstream utilization or storage.
- **Vessel Type Constraints:** The feasibility of OCCS depends heavily on ship type. Large vessels—such as Liquefied Natural Gas (LNG) carriers, Very Large Crude Carriers (VLCCs), and large container ships—offer distinct advantages in available space, stability, and waste-heat utilization. Conversely, bulk carriers and medium-sized tankers face significant spatial integration challenges.
- **Unstandardized Safety Benchmarks:** The *International Convention for the Safety of Life at Sea (SOLAS)* has not yet established unified standards for OCCS. Early-stage applications for now rely heavily on containment, ventilation, and gas-handling rules developed independently by classification societies, resulting in a lack of international regulatory equivalence.

3. Infrastructure and the Economic Value Chain

- The competitiveness of OCCS is determined not only by onboard capture efficiency but also by the shoreside "CO₂ value chain," which encompasses port reception facilities, transportation networks, and permanent storage capacities.
- While Europe is actively building cross-border CO₂ transport and storage infrastructure (such as Norway's Northern Lights project), global development remains highly uneven. The absence of unified CO₂ specifications, custody transfer standards, and receiving ports in Asia and the Americas will severely restrict the scalable expansion of OCCS.

4. Strategic Recommendations

- **Incorporation into International Regulatory Frameworks:** The industry should prioritize pushing the IMO and the EU to incorporate OCCS into the lifecycle calculations of EEXI and CII, ensuring that emission reductions can be converted into tangible "compliance credits."
- **Standardization of Operations:** The IMO is urged to develop unified safety standards, offloading procedures, and ship-to-ship transfer standards to minimize regulatory uncertainty.
- **Strategic Positioning:** Shipowners and operators should view OCCS as a long-term strategic asset to hedge against high carbon prices and fuel volatility, rather than merely a short-term retrofitting solution for compliance.

Other References:

1. Global Centre for Maritime Decarbonisation (GCMD). Landmark study on offloading onboard captured carbon dioxide. (19 March 2024) <https://www.gcformd.org/landmark-study-on-offloading-onboard-captured-carbon-dioxide/>
2. SAFETY4SEA. ICS: OCCS could play a significant role in shipping's decarbonization. June 9, 2026, in Emissions. <https://safety4sea.com/ics-occs-could-play-significant-role-in-shippings-decarbonization/>
3. SAFETY4SEA. A harmonized regulatory framework is key in scaling OCCS. February 26, 2026 in Green Shipping. <https://safety4sea.com/a-harmonized-regulatory-framework-is-key-in-scaling-occs/>
4. International Chamber of Shipping (ICS). 2026. ICS publish Onboard Carbon Capture and Storage Review Report (9 June 2026). <https://www.ics-shipping.org/wp-content/uploads/2026/06/OCCS-Final-Report.pdf>

➤ International Maritime Organization Meeting Highlights

I. IMO Maritime Safety Committee (MSC), 111th session (MSC 111)

The 111th session meeting of the MSC committee was held from May 13 to 22nd, 2026.

1. About IMO MSC¹

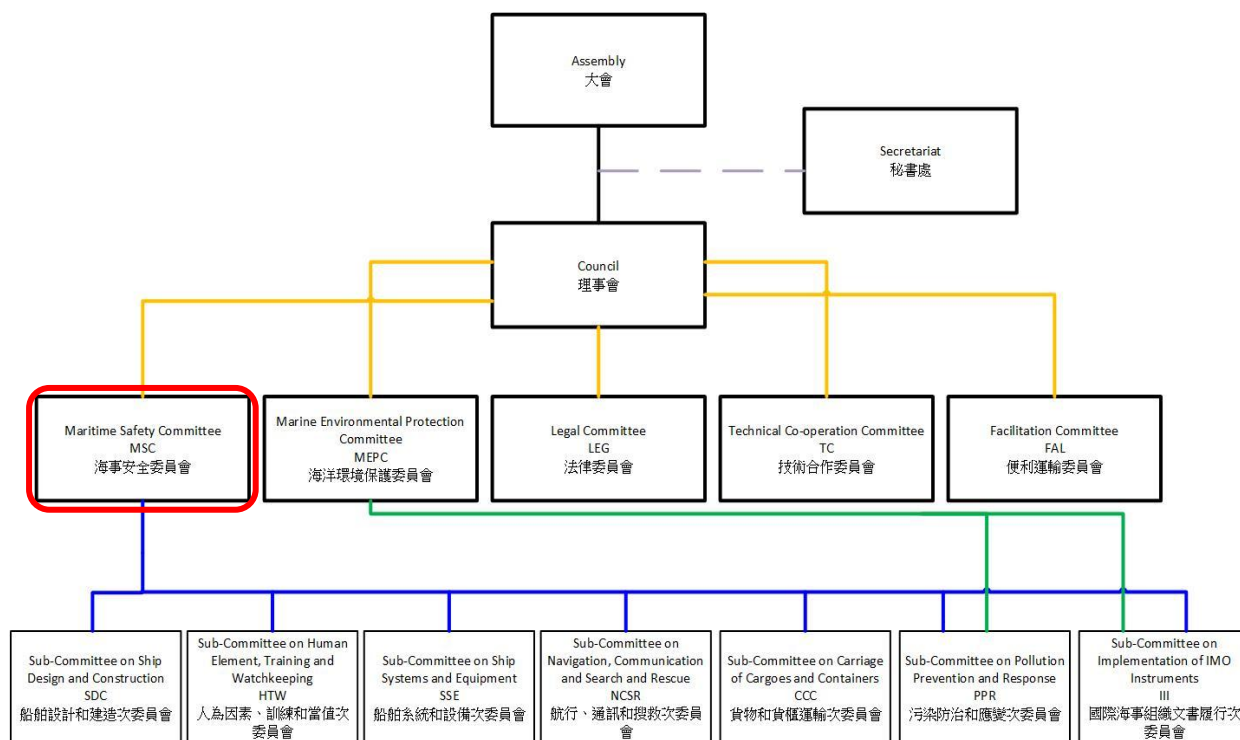


Figure 1 Organization Structure of IMO (MSC) (Source: by CIMCS-NKUST)

The IMO Maritime Safety Committee (MSC) primarily addresses matters related to maritime safety and security within the IMO's remit, including passenger ships and all types of cargo ships. Updating the regulations, such as the International Convention for the Safety of Life at Sea (SOLAS) and related codes, like those covering dangerous goods, life-saving appliances, and fire safety systems. MSC is also responsible for human element issues; therefore, amendments to the STCW Convention on training and certification of seafarers.

On its current agenda, there is a wide range of issues, including goal-based standards, autonomous vessels (MASS), piracy and armed robbery against ships, cyber-security, e-navigation, and Global Maritime Distress Safety System (GMDSS).

¹ IMO. The Maritime Safety Committee (MSC).

<https://www.imo.org/en/mediacentre/meetingsummaries/pages/msc-default.aspx>

2. MSC 111 Highlights

- (1) Adopted the new non-mandatory *International Code of Safety for Maritime Autonomous Surface Ships* (MASS Code);
- (2) Approved the revised Explanatory Notes on the concept of Safe Return to Port (SRtP);
- (3) Approved the *Interim Guidelines for the Safety of Ships Using Hydrogen as Fuel* and the *Interim Guidelines for Fuel Cell Power Installations on Ships Using Hydrogen as Fuel*;
- (4) Approved draft amendments to the *International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk* (IGC Code) to incorporate a large number of unified interpretations;
- (5) Clarified the approach for applying the alternative fuel provisions of the IGC Code to ships subject to the IGC Code, and confirmed the circumstances under which the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code) does not apply to gas carriers.

3. MSC 111 Agenda²

Item No.	Agenda
1	Adoption of the agenda; report on credentials
2	Decisions of other bodies
3	Amendments to mandatory instruments
4	Goal-based new ship construction standards
5	Development of a goal-based instrument for maritime autonomous surface ships (MASS)
6	Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels
7	Measures to enhance maritime security
8	Piracy and armed robbery against ships
9	Unsafe mixed migration by sea
10	Formal safety assessment
11	Review of the financial architecture of the LRIT system

² IMO. MSC 111 meeting document MSC 111/1/1.

Item No.	Agenda
12	Ship design and construction (Report of the twelfth session of the Sub-Committee)
13	Human element, training and watchkeeping (Report of the twelfth session of the Sub-Committee)
14	Carriage of cargoes and containers (Report of the eleventh session of the Sub-Committee)
15	Navigation, communications and search and rescue (Report of the twelfth session of the Sub-Committee)
16	Pollution Prevention and Response (Report of the thirteenth session of the Sub-Committee)
17	Implementation of IMO instruments (Report of the eleventh session of the Sub-Committee)
18	Application of the Committee's method of work
19	Work programme
20	Election of Vice-Chair for 2026
21	Any other business
22	Consideration of the report of the Committee on its 111th session

4. MSC 111 Meeting Summaries³

MSC 111 was held from 13 to 22 May 2026, at the IMO Headquarters in London, UK. The meeting was hybrid, with in-person participation and livestreaming to the public.

The meeting established 3 working groups: one responsible for Maritime Autonomous Surface Ships (MASS), another for GHG Safety, and the third for reviewing the financial architecture of the LRIT system. On the other side, a Drafting Group on Amendments.⁴

Group Type	Main Task
Working Group (WG)	- WG1: Working group on MASS - WG 2: Working group on GHG Safety - WG 3: Working group on review of the financial architecture of the LRIT system

³ IMO. Facilitation Committee (FAL), 50th session, 23-27 March 2026.

<https://www.imo.org/en/mediacentre/meetingsummaries/pages/fal-50th-session.aspx>

⁴ Refer to IMO FAL meeting document FAL 50/1/1.

Group Type	Main Task
Drafting Group (DG)	• DG: Drafting Group on Amendments

(1) Impacts on shipping and seafarers of the situation in the Arabian Sea, the Sea of Oman, and the Persian Gulf region, particularly in and around the Strait of Hormuz (Agenda Item 2)

MSC 111 considered the impacts on shipping and seafarers of the situation in the Arabian Sea, the Sea of Oman, and the Persian Gulf region (the Gulf region), particularly in and around the Strait of Hormuz, and adopted a resolution on safety, security, and the protection of seafarers proposed by the United Arab Emirates (UAE), emphasizing the safeguarding of freedom of navigation and exploring arrangements for a safe maritime corridor.

MSC 111 requested IMO Member States to support the Secretary-General in continuing to advance relevant work to assist in the safe evacuation of ships and seafarers trapped in the Persian Gulf. It also urged Member States and relevant organizations to provide necessary supplies, helplines, remote support, information updates for families, and assistance with crew changes.

Furthermore, the Committee reviewed and approved a draft of guidelines regarding the training and certification of seafarers affected by the situation in the Arabian Sea, the Oman Sea, and the Persian Gulf region, specifically the Strait of Hormuz and its surrounding areas. The guidelines aim to provide temporary and pragmatic measures to assist authorities responsible for seafarer training and certificate issuance, flag States, and port States in implementing the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention) and its Code under the current situation.

The objective of this work is to support seafarers affected by extended stays in the region, ensuring they are not disadvantaged by the potential expiry of required training or certificates, and to encourage relevant administrations to adopt a pragmatic approach while maintaining international safety and environmental standards under the STCW Convention.

(2) Maritime Digitalization (Agenda Item 3)

MSC 111 has approved the *IMO Strategy on Maritime Digitalization* and its working plan, which was developed by FAL 50 (March 2026), and submitted to MEPC 85 (November 2026) for further review and approval.

By the way, the Committee encouraged Member States and international organizations to join the Correspondence Group on the Development of the IMO Strategy on Maritime Digitalization and to provide comments on the action plan through the

correspondence group.

(3) Amendments to the Mandatory and non-mandatory instruments (Agenda item 3)

MSC 111 has reviewed and adopted several amendments to mandatory instruments, which are set to enter into force on 1 January 2028. The relevant draft amendments include:

①. Draft amendments to SOLAS Chapters IV and V

These amendments include clarifications that Maritime Safety Information (MSI) and Search and Rescue (SAR) related information should be disseminated through all operational Recognized Mobile Satellite Services (RMSS). In conjunction with this, Resolution MSC.509(105)/Rev.2 was adopted to update the relevant provisions for radio services provided under the Global Maritime Distress and Safety System (GMDSS).

At the same time, SOLAS Chapter V and its appendix were amended to allow ships to voluntarily install the VHF Data Exchange System (VDES) as an alternative to the Automatic Identification System (AIS). In line with these amendments, the Committee also adopted an MSC resolution incorporating VDES into the IMO regulatory framework, performance standards for shipborne VDES, and approved guidelines on the operational use of shipborne VDES.

②. Draft amendments to the International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011 (2011 ESP Code)

These include the addition of a new section related to Remote Inspection Techniques (RIT) and its associated guidelines.

③. Amendments to the 1994 and 2000 HSC Codes

These incorporate consequential amendments related to the VHF Data Exchange System (VDES) arising from the aforementioned amendments to the SOLAS Convention.

④. Amendments (Amendment 43-26) to the *International Maritime Dangerous Goods Code (IMDG Code)*

The contents include updates to the provisions for the transport of batteries and the establishment of clearer criteria for the transport of vehicles, including electric vehicles. These amendments are scheduled to enter into force on 1st January 2028, with voluntary application permitted from 1st January 2027. In conjunction with these, the Committee also approved relevant amendments to the Revised Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide).

⑤. Amendments to the *International Code of Safety for Ships Carrying Industrial*

Personnel (IP Code)

These amendments adjust the design weight of industrial personnel used in stability calculations from 75 kg to 90 kg, reflecting the actual weight requirements of personnel wearing personal protective equipment (PPE) and aligning with the relevant regulations of the High-Speed Craft (HSC) Codes.

⑥. Amendments to the *International Life-Saving Appliance Code (LSA Code)*

These introduce new provisions for testing free-fall lifeboat release systems under loaded conditions, without actually launching the lifeboat into the water. Such arrangements must possess a safety factor of at least 6 and will primarily apply to free-fall lifeboats installed on or after 1 January 2031.

⑦. Amendments to the *Requirements for Maintenance, Thorough Examination, Operational Testing, Overhaul and Repair of Lifeboats and Rescue Boats, Launching Appliances and Release Gear (Resolution MSC.402(96))*

MSC 111 also adopted updates to incorporate the aforementioned loaded testing arrangements for free-fall lifeboat release systems into the annual thorough examination and operational testing requirements.

⑧. Amendments to Annex B to the 1988 Load Lines Protocol

These amendments update the requirements for guard rails and bulwarks, stipulating that guard rails fitted to structures other than superstructures should have at least three courses. If chains are used instead of guard rails, they should be taut and removable as far as practicable.

As for the relevant non-mandatory instruments, this session also completed the adoption, approval, or amendment of numerous MSC resolutions, circulars, performance standards, guidelines, and unified interpretations to facilitate the implementation of the aforementioned amendments to mandatory instruments.

(4) The Goal-Based Standards (GBS) Audit for new shipbuilding (Agenda item 4)

Goal-based ship construction standards (GBS) for bulk carriers and oil tankers can be understood conceptually as the "rules" the IMO uses to regulate classification societies. Under the GBS framework, IMO auditors verify and certify, based on relevant criteria, whether the construction rules of classification societies acting as Recognized Organizations (ROs) comply with the goals and functional requirements established by the IMO.

The Committee considered the audit report on Biro Klasifikasi Indonesia (BKI) and reviewed the outcomes of the Fourth GBS Maintenance of Verification Audit, which covered 14 recognized organizations and the International Association of Classification Societies (IACS) *Common Structural Rules for Bulk Carriers and Oil Tankers*.

Following the conclusion of the Fourth GBS Maintenance of Verification Audit, the Committee confirmed that the rules of the 12 IACS member societies, as well as 2 non-IACS recognized organizations, namely the Russian Maritime Register of Shipping (RS) and the Indonesian BKI, continue to conform to the GBS requirements for the construction of new bulk carriers and oil tankers.

(5) Adopt the Goal-Based Maritime Autonomous Surface Ships (MASS) Code (Agenda item 5)

The non-mandatory *International Code of Safety for Maritime Autonomous Surface Ships* (MASS Code) has been finalized and adopted by the MSC 111, aiming to support the safe integration of merchant ships with artificial intelligence capabilities and remote operations into the global shipping system

The MASS Code aims to define the functions required for maritime autonomous surface ships (MASS) to operate safely, securely, and in an environmentally friendly manner. Its scope covers matters not yet fully regulated by other applicable IMO instruments, ensuring that necessary safety levels are maintained when introducing remote control or autonomous operation of critical functions.

The MASS Code is positioned as a complementary regulation to other IMO instruments, including the SOLAS Convention, and provides a regulatory framework for remote control and autonomous ship operations.

The chapters of the draft MASS Code ([MSC 111/5/3](#)) include those covering: surveys and certificates; approval process; risk assessment; operational context; system design; software principles; management of safe operations; alert management; manning, training and watchkeeping; safety of navigation; connectivity; remote operations; structure, subdivision, stability and watertight integrity; fire protection, fire detection and fire extinction; special measures to enhance maritime security; search and rescue; carriage of cargoes; anchoring, towing and mooring; machinery and electrical installations.

The MASS Code applies to cargo ships covered by chapter I of the SOLAS Convention and will be implemented from 1st July 2026. Since it is a non-mandatory instrument, Member States can test its application in advance, while providing a baseline for its future incorporation into the SOLAS Convention as a mandatory regulation.

The subsequent work schedule for the MASS Code is as follows:

- ①. At MSC 112 (December 2026), a MASS Working Group will be re-established to develop a framework for the Experience-Building Phase (EBP) of the non-mandatory MASS Code.
- ②. Based on the outcomes of the non-mandatory Experience-Building Phase (EBP), together with the findings of the relevant IMO Sub-Committees, work will commence on developing a mandatory MASS Code by 2028. At the same time, amendments to the SOLAS Convention, including the possible introduction of a

new chapter, will be considered to provide the legal basis for adopting the mandatory Code.

- ③. The mandatory IMO MASS Code is expected to be adopted by 1st July 2030 and to enter into force on 1st January 2032.

(6) To develop the greenhouse gas (GHG) safety regulatory framework (Agenda item 6)

During this session, MSC 111 continued the work on developing the safety regulatory framework to support the adoption of new technologies and alternative-fuel vessels to reduce greenhouse gas emissions. A working group was established to review proposed regulatory solutions for the use of alternative fuels in gas carriers, including identifying safety barriers, constraints, and regulatory gaps in existing IMO instruments that may hinder their use.

MSC 111 has approved draft work plans prepared by various subcommittees—in particular, the two Sub-Committees, CCC and SDC—to develop a safety regulatory framework that supports the adoption of new technologies and alternative fuels on ships to reduce greenhouse gas emissions.

These work plans cover the following alternative fuels and new technologies:

①. Sub-Committee on Ship Design and Construction (SDC) :

- 1.1 Battery power;
- 1.2 Wind propulsion and wind-assisted power;
- 1.3 Nuclear power.

②. Sub-Committee on Carriage of Cargoes and Containers (CCC) :

- 2.1 Ammonia;
- 2.2 Hydrogen;
- 2.3 Methyl/ethyl alcohols;
- 2.4 Low-flashpoint oil fuels;
- 2.5 Fuel blends and mixtures;
- 2.6 Fuel cell power installations;
- 2.7 Onboard Capture and Storage (OCCS).

(7) Guidelines for Ships Using Alternative Fuels (Agenda item 6)

MSC 111 continued to advance work on the safety regulatory framework for ships using new technologies and alternative fuels. The Committee approved new guidelines to

promote the following: the “*Interim Guidelines for the safety of ships using hydrogen as fuel*” and the “*Interim Guidelines for the safety of ships using hydrogen as fuel*.”

MSC 111 also approved two new sets of interim guidelines on training for seafarers on ships using alternative fuels and technologies, reflecting the need to develop new skills among seafarers and to address the specific risks associated with various fuel types. The relevant guidelines include: *Interim guidelines on training for seafarers on ships using methyl/ethyl alcohol as fuel*; and *Interim guidelines on training for seafarers on ships using ammonia as fuel*.

The Committee also clarified how the “one ship, one code” principle applies to gas carriers using alternative fuels, including whether the *International Code of Safety for Ship Using Gases or Other Low-flashpoint Fuels (IGF Code)* or the *International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)* should apply, in order to ensure consistency and clarity in the regulatory framework.

(8) To strengthen the maritime security (Agenda item 7)

MSC 111 received an update on recent developments in maritime security and considered a proposal to review the *International Ship and Port Facility Security Code (ISPS Code)* and explore how it can be used to address broader security risks facing ships and port facilities, including those related to illegal and criminal activities.

The Committee noted broad support for the information provided by the United States in document MSC 111/7/1, which warrants further consideration and discussion on how to apply the ISPS Code to enhance maritime security, particularly in response to illegal and criminal activities. The Committee endorsed this proposal, namely, to request that the Legal Committee (LEG) designate the MSC as a collaborating body for the output item “Measures to address maritime security threats.”

(9) Piracy and armed robbery against ships (Agenda item 8)

MSC 111 received an update on developments related to piracy and armed robbery against ships. According to information received by the IMO and published in its Global Integrated Shipping Information System (GISIS) module, a total of 171 incidents of piracy and armed robbery against ships, whether actual or attempted, were reported to the IMO in 2025; this represents an increase of approximately 17% at the global level compared to the 146 incidents reported in 2024.

In terms of regional distribution, the most significantly affected region in 2025 was the Strait of Malacca and the Singapore Strait, with a total of 122 incidents; this was followed by West Africa with 21 incidents and the Indian Ocean with 10 incidents. Among these, the number of incidents in West Africa—which includes the Gulf of Guinea—increased by 4 compared to 2024, representing approximately a 24% increase, indicating that certain high-risk waters still require continued attention.

In addition, the Committee encourages Member States, shipowners, and operators to

continue implementing Chapter XI-2 of the SOLAS Convention, the ISPS Code, and relevant best management practices, and to remain vigilant against suspicious approaches in the Gulf of Aden and the Indian Ocean region; it also encourages Member States to support the implementation of the *Djibouti Code of Conduct* and the *Yaoundé Code of Conduct*, including by considering providing financial support to the relevant trust funds.

(10) Review of the financial architecture of the Long-Range Identification and Tracking (LRIT) system (Agenda item 11)

MSC 111 reviewed the financial framework for the Long-Range Identification and Tracking (LRIT) system⁵, including whether periodic LRIT position reports—updated every six hours—should be provided free of charge to coastal States entitled to receive such information.

The LRIT system, as defined in Regulation V/19-1 of the SOLAS Convention, provides global ship identification and tracking capabilities to enhance maritime security and is used for safety and marine environmental protection purposes.

MSC 111 approved amendments to the SOLAS Convention that will adjust the operation of the LRIT system with the aim of improving the availability of global ship tracking data while enhancing maritime safety, security, and environmental protection. These amendments will be submitted to MSC 112 for consideration and adoption in December.

These amendments will allow coastal states to receive standard vessel position reports free of charge, thereby removing one of the main barriers to using the system. This move is expected to help countries monitor maritime activities more effectively, support search-and-rescue (SAR) operations, and address issues such as illegal shipping and marine pollution.

⁵ The Long-Range Identification and Tracking (LRIT) system provides global ship identification and tracking capabilities to enhance maritime security and serves safety and marine environmental protection purposes. The obligation of ships to transmit LRIT information, as well as the rights and obligations of SOLAS Contracting Governments and search and rescue services to receive LRIT information, are stipulated in Regulation V/19-1 of the SOLAS Convention. The LRIT system comprises:

- (1) shipboard LRIT data transmission equipment;
- (2) Communication Service Provider(s) (CSP);
- (3) Application Service Provider(s) (ASP);
- (4) LRIT Data Center(s) (DC), including any associated Vessel Monitoring System(s) (VMS);
- (5) LRIT Data Distribution Plan (DDP); and
- (6) International LRIT Data Exchange (IDE).

Certain performance aspects of the LRIT system are reviewed or audited by the LRIT Coordinator on behalf of all SOLAS Contracting Governments. Derived from <https://www.imo.org/en/ourwork/safety/pages/lrit.aspx>

(11) Reports from the Sub-Committee (Agenda item 19)

Sub-Committee Meeting	The meeting outcomes
Sub-Committee on Ship Design and Construction, 12th session (SDC 12)	①. Approve the revision to the MSC Circular on the “Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369/Rev.1)” to facilitate the consistent application of relevant requirements for the safe return to port and orderly evacuation of passenger ships following a fire or flooding incident; ②. In alignment with the amendments to the 2011 ESP Code adopted at this session, approve the MSC Circular on the “Guidelines on the Use of Remote Inspection Techniques (RIT) for 2011 ESP Code Surveys,” to establish a basis for the implementation of close-inspection surveys using RIT on bulk carriers and oil tankers under specific conditions; ③. Approved the draft amendments to the “Technical Provisions for Means of Access for Inspections” (Resolution MSC.133(76) and its amendments) and submitted to MSC 112 for consideration and adoption; ④. Approved the draft amendments to the “Revised interim guidelines for use of fibre-reinforced plastic (FRP) elements within ship structures: fire safety (MSC.1/Circ.1574/Rev.1)” and submitted them to MSC 112 for consideration and adoption; ⑤. Approved the amendments to Chapter 6 of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU Code) to clarify the safety requirements for electrical equipment that must continue to operate following an emergency shutdown or selective shutdown.
Sub-Committee on Human Element, Training and Watchkeeping, 12th session (HTW 12)	①. Approved two sets of draft interim guidelines on the training of crew members on ships using alternative fuels and new technologies, covering ships using methanol/ethanol as fuel and ships using ammonia as fuel, respectively; ②. Endorsed the work plan for the subsequent development of training requirements for crew members on ships using alternative fuels and new technologies, to support the development of crew competencies necessary for the safe introduction of such fuels and technologies.

Sub-Committee Meeting	The meeting outcomes
Sub-Committee on Carriage of Cargoes and Containers, 11th session (CCC 11)	①. Approved the MSC Circular on the “<i>Interim guidelines for the safety of ships using hydrogen as fuel</i>”; ②. Approved the MSC Circular on the “Interim guidelines for use of ammonia cargo as fuel” to address requirements related to the safety of crew and ships when ammonia cargo is used as fuel; ③. Approved the MSC Circular on the unified interpretation of the IGC Code, covering Secondary Barrier testing, performance evaluation, and the assessment of related inspection results; ④. Adopted the draft MSC resolution on the new consolidated version of the “Revised interim recommendations for carriage of liquefied hydrogen in bulk”; ⑤. Approved the draft amendments to the IGC Code to incorporate various uniform interpretations accumulated in recent years, and submitted them to MSC 112 for consideration and adoption.
Sub-Committee on Carriage of Cargoes and Containers, 11th session (NCSR 12)	①. Adopted the new route measures and amendments to ship reporting systems, including the addition of the “Off the Coast of Réunion” exclusion zone, and revisions to the Mandatory ships reporting system in the Adriatic Sea (ADRIREP), the mandatory ship reporting system “In the Sound Between Denmark and Sweden”(SOUNDREP), and the mandatory ship reporting system “In the Storebælt (Great Belt) Traffic Area” (BELTREP); ②. Approved the IMO’s draft position on agenda items related to maritime services for the International Telecommunication Union World Radiocommunication Conference 2027 (ITU WRC-27); ③. Approve the “Guidelines for software maintenance of shipboard computer-based navigation and communication equipment and systems,” and the “Guidelines on carriage and use of electronic nautical publications (ENP) system”; ④. Adopted amendments to Resolution A.1046(27), “the Worldwide Radio-navigation System,” to incorporate requirements related to enhanced systems; and adopted revised performance standards for shipboard BeiDou Satellite Navigation System (BDS) receiving equipment.

Sub-Committee Meeting	The meeting outcomes
Sub-Committee on Pollution Prevention and Response, 13th session (PPR 13)	①. Approved the draft amendments to the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code) to incorporate the items listed in Circular MEPC.2, List 1. These amendments include applying Special Requirement 16.2.7 to products in 12 additional product categories and adding two new tank-cleaning additives; ②. Noted that PPR 13 has referred the proposed amendments to the IMSBC Code regarding the prevention of the transport of plastic pellets in bulk to the CCC Sub-Committee for further consideration; ③. Noted that PPR 13 has prepared a draft amendment to MARPOL Annex VI regarding minimum opening pressure requirements for pressure/vacuum (P/V) valves on new crude oil tankers, which was approved by MEPC 84 (April 2026) for subsequent adoption.
Sub-Committee on Implementation of IMO Instruments, 11th session (III 11)	①. Approved the MSC Circular on “the accident analysis process and procedures for maritime accident investigation reports, and data-based research” to support the IMO in revising regulations based on the findings of accident investigation reports and data analysis; ②. Approved the MSC-MEPC.5 Circular, Guidance on assessments and applications of remote surveys, ISM Code audits, and ISPS Code verifications; ③. Approved a uniform interpretation regarding the completion dates of surveys and verifications on which certificates are based, and issued it as MSC-MEPC.5/Circ.3/Rev.1 ④. Reviewed the development of a comprehensive port State control database as a direction for future efforts to enhance the integration of compliance information and the utilization of port State control data.

5. Recommendation for MSC 111

- **Adoption and Timeline of the MASS Code:**

MSC 111 has adopted the non-mandatory *International Code for the Safety of Autonomous Surface Ships at Sea (MASS Code)*, which will be implemented on July 1st, 2026. Subsequently, the Experience-Based Phasing (EBP) process will serve as the basis for developing a mandatory MASS Code, with a tentative target date of 2032 for its entry into force.

As the MASS Code involves complex issues such as Remote Operations Centers (ROC), master's responsibility, survey and certification, remote operator training, and the application of the ISPS Code, competent authorities should continue to monitor the IMO's subsequent EBP data collection initiatives and the pilot program experiences of various countries, using this information as a reference for future assessments of autonomous ship trials, regulatory responsibilities, and personnel competency requirements.

- **Safety Regulatory Framework for Alternative Fuels and Seafarer Training**

MSC 111 advanced the safety regulatory framework for ships utilizing new technologies and alternative fuels, and approved interim guidelines on the safety of ships using hydrogen as fuel, on the use of ammonia cargo as fuel, and on crew training for methanol/ethanol- and ammonia-fueled ships.

Furthermore, the Committee provided further clarification on the “one ship, one code” principle regarding the application of the IGC Code or IGF Code to gas carriers. The administration should pay attention to the interrelated developments in safety guidelines for alternative-fuel ships and crew training requirements, particularly regarding consistency in ship design safety, crew competency, adjustments to training institutions' curricula, and classification societies' inspection practices.

- **Amendments to SOLAS Convention, VDES Framework, and LRIT Architecture**

MSC 111 has adopted amendments to SOLAS Chapters IV and V, clarifying that Maritime Safety Information (MSI) and Search and Rescue (SAR) related information should be disseminated through all operational Recognized Mobile Satellite Services (RMSS). It also integrated the VHF Data Exchange System (VDES) into the IMO regulatory framework as a voluntary alternative to the Automatic Identification System (AIS); the relevant amendments are expected to take effect on January 1st, 2028.

In addition, the Committee approved adjustments to the LRIT system's financial framework, enabling coastal states entitled to receive information to obtain standard ship position reports free of charge in the future. Competent authorities should monitor subsequent developments regarding VDES, GMDSS satellite services, and LRIT data acquisition mechanisms to understand the digitalization of supervisory and regulatory trends in navigation safety, search and rescue, maritime security, and marine pollution response.

- **Geopolitical Regional Security, Emerging Risks, and Piracy Incidents**

In addition to adopting resolutions regarding the regional situation in the Arabian Sea, the Sea of Oman, and the Persian Gulf, and approving training and certification guidelines for seafarers affected by the situation around the Strait of Hormuz, this session of the Committee also discussed whether to review the ISPS Code to address emerging security risks such as organized crime, unlawful activities, and the "shadow fleet."

Furthermore, incidents of piracy and armed robbery against ships reported to the IMO in 2025 increased by approximately 17% compared with the previous year. Administrations should continue to monitor high-risk areas along international shipping routes, updates to port facility security plans (PFSPs), flexible arrangements for seafarer certification, and shipping company risk-notification mechanisms to respond effectively to real-time shifts in international maritime security requirements.

6. Next Meeting Schedule

MSC 112 is scheduled to be held from December 7th to 11th in 2026.

7. References

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- (3) Class NK, Preliminary Report of IMO MSC 111. https://www.classnk.or.jp/hp/pdf/info_service/imo_and_iacs/MSC111_sumE.pdf
- (4) Det Norske Veritas (DNV), IMO MSC 111: New MASS Code adopted. <https://www.dnv.com/news/2026/imo-mcs-111-new-mass-code-adopted/>
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- (6) International Maritime Organization (IMO), PREVIEW: Maritime Safety Committee - 111th session (MSC 111), 13-22 May 2026. <https://www.imo.org/en/mediacentre/meetingsummaries/pages/preview-msc-111.aspx>
- (7) Lloyd's Register (LR), MSC 111 Summary Report. <https://maritime.lr.org/MSC-111-Summary-Report>
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- (9) 中國船級社(CSS), 〈IMO 海上安全委員會第 111 屆會議(MSC 111)要點快報〉。 <https://www.ccs.org.cn/ccswz/IMOMeetingDetail?columnid=201900002000000037&articleId=202605250337370110>
- (10) 財團法人驗船中心(CR), 〈MSC 111 會議結論快報〉。 https://www.crclass.org/wp-content/uploads/2026/05/MSC_111_會議結論快報_20260523.pdf