
IMO Maritime Safety Committee One Hundred and Second session (MSC 102)

Summary Report



Overview of outcomes

Below are some of the discussions and decisions from MSC 102 which have greater significance for current practices. More detail, and other discussions, are given under the relevant subject headings in the report.

- MSC 102 adopted the amendments to SOLAS II-1 which address the **design requirements for mooring equipment** (including ropes/wires) to ensure occupational safety and safe mooring of ships. (Please see [Safe Mooring Agenda item 3](#))
- MSC 102 also approved the draft amendments to SOLAS II-1 for **onboard lifting appliances and anchor handling winches (OLAW)**. The draft guidelines were approved in principle. The amendments require new lifting appliances to be designed, constructed and installed in accordance with the requirements of a classification society which has been recognised by the Administration, and subsequently load tested and thoroughly examined. (Please see [OLAW Agenda item 19](#))
- As the next meetings of both the Ship Design and Construction (SDC) and Ship Systems and Equipment (SSE) sub-committees are delayed until 2022, **MSC 102 agreed to the continuation of correspondence groups working to their already agreed terms of reference and the timetabling of intersessional working groups** to progress items that need to be approved and adopted in time for entry into force of 1 January 2024 under the SOLAS 4-year cycle. In cases where priority work will miss this deadline (e.g. the new regulations on Industrial Personnel & the amendments to SOLAS for onboard lifting appliances) then given the exceptional circumstances, the new regulation will enter into force 18 months after adoption at MSC outside the 4-year cycle.
- It should be noted that the key discussions on **Maritime Autonomous Surface Ships (MASS)** and the **development of further measures to enhance the safety of ships relating to the use of fuel oil** will be continued at MSC 103.

Introduction

MSC 102 took place 4-11 November 2020 as a virtual meeting with a reduced agenda covering the amendments to mandatory instruments and the reports from the sub-committees held January – March 2020 and HTW 6 and CCC 6 which were held in 2019.

The work on Maritime Autonomous Surface Ships (MASS); the development of further measures to enhance the safety of ships relating to the use of fuel oil; and measures to improve domestic ferry safety will continue at MSC 103 which is currently scheduled for May 2021. Consideration of proposals for new outputs has also been deferred to MSC 103.

This briefing summarises the discussions and outcomes which are relevant to the work of Lloyd's Register.

<p style="text-align: center;">Additional Information</p>
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<p style="text-align: center;">Lloyd's Register's MSC 102 Agenda Preview</p>
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Adoption of Amendments to Mandatory Instruments

(Agenda item 3)

Please note that descriptions of the amendments to SOLAS and other mandatory instruments that were adopted under this agenda item are included under the appropriate subject headings in this report.

MSC 102 noted that IMO has issued Note Verbale 0.22 (NV.022) advising the following:

Corrections to the amendments to the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code), adopted by resolutions MSC.259(84) and MSC.438(99)

This Note Verbale amends Chapter 14 of the 1994 HSC Code by deleting the text in its entirety and replacing it with:

“Craft should be provided with radiocommunications facilities as specified in chapter 14 of the 2000 HSC Code (resolution MSC.97(73)), as amended up to and including resolution 439(99), that are fitted and operated in accordance with the provisions of that chapter.”

This is an administrative correction that retrospectively rectifies errors in resolutions MSC.259(84) and MSC.438(99).

Ship Construction, Hull Structure and Stability

(Agenda item 17)

Ship Structures associated with Surveys

Additional Information

Lloyd's Register's [SDC 7 Summary report](#)

MSC 102 approved the following as agreed at the SDC sub-committee:

Draft amendments to the 2011 Enhanced Survey Programme Code for bulk carriers and oil tankers as amended by MSC.461(101)

MSC 101 adopted comprehensive amendments to the 2011 ESP Code (Resolution MSC.461(101) which will enter into force 1 January 2021).

The draft amendments considered here affect the requirements for thickness measurements.

Industry has undertaken extensive data collection from oil tankers during thickness measurements at the first renewal survey of the areas identified in annex B, part A, annex 2, of the 2011 ESP Code, as amended, to evaluate the actual wastage. As a consequence, these draft amendments limit thickness measurements at the first renewal survey of double hull oil tankers to suspect areas only and brings the requirements in line with those for bulk carriers. The column entitled "Renewal Survey No.1" in annex B of part A, annex 2 of the 2011 ESP Code, as amended by resolution MSC.461(101) is amended to reflect the changes.

The draft amendments will go to MSC 103 for adoption.

Goal Based Standards

(Agenda item 7)

In order to ensure that ships are constructed in such a manner that, when properly operated and maintained, they can remain safe for their design life, and that all parts of a ship can be easily accessed for proper survey and inspection, IMO adopted MSC.287(87) *International goal-based ship construction standards for bulk carriers and oil tankers* and SOLAS regulation II-1/3-10, by which the standards were made mandatory.

The verification audits of recognised organisations (ROs) are conducted in line with MSC.454(100) *Revised guidelines for verification of conformity with goal-based ship construction standards for bulk carriers and oil tankers*.

MSC 102 noted the following:

- The current status of all GBS audit findings and GBS verification audits
- Report on the rectification of non-conformities identified in the initial verification audit of Türk Loydu
- Report on the re-verification of DNV-GL ship construction rules

Subdivision and Stability (SDC)

(Agenda item 17)

MSC 102 adopted the following:

Resolution MSC.474(102) Amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended (Amendments to parts B-1 and B-2 to B-4 of SOLAS chapter II-1 with regard to watertight integrity)

The amendments to SOLAS chapter II-1 parts B and B-1 (MSC.216(82) and MSC.421(98)) introduced inconsistencies with parts B-2 to B-4. These arose from the different philosophies behind the probabilistic damage stability assessment and the assumptions made for the regulations in parts B-2 to B-4. The probabilistic method does not rely on a single deck (the bulkhead deck) to provide the uppermost watertight boundary, instead the upper boundary of the buoyant volume may be used. However, the watertight integrity requirements contained in parts B-2 to B-4 still made reference to the bulkhead deck.

Application: These amendments provide clarity to the requirements and affect the subdivision arrangements and design of vessels. They will enter into force 1 January 2024 and will be applicable to ships constructed on or after that date.

MSC.1/Circular (number to follow) Voluntary early implementation of the amendments to SOLAS regulation II-1/12 adopted by Resolution MSC.474(102)

Allows the voluntary early implementation of the SOLAS amendments described above.

MSC.429(98)/Rev.1 Revised Explanatory Notes to SOLAS chapter II-1 subdivision and damage stability regulations

The explanatory notes have been amended to clarify that hinged doors, required by the new regulation 17.3, should open in the direction of escape. These doors should be considered as fire doors and meet the fire protection requirements in chapter II-2 but with the capability to prevent the passage of water. These doors are to be closed in the case of damage but should be operable using the fire door control circuit, as required

by regulation 13.7.1. The doors are also to be capable of being remotely closed with the ship listing 15 degrees in either direction.

Application: MSC.429(98)/Rev.1 will enter into force 1 January 2024. Regulation 17.1 applies to passenger ships contracted for construction on or after 1 January 2020 but constructed before 1 January 2024, whereas 17.3 applies to those constructed on or after 1 January 2024.

Resolution MSC.67(62)/Rev.1 Revised guidelines for safe access to tanker bows

This minor amendment to paragraph 1.2 of the annex distinguishes between different provisions for foot-stops based on the location of the gangway or walkway i.e. at or above the level of the superstructure deck or at the freeboard deck level. MSC.67(62) is revoked.

[MSC 102 approved the following which are now expected to be adopted at MSC 103:](#)

Draft SOLAS regulation II-1/25-1 on Water level detectors on multiple hold cargo ships other than bulk carriers and tankers

SOLAS II-1/25 currently requires single hold cargo ships of less than 80 metres (100 metres if constructed before 1 July 1998) to have a water level detection alarm. These ships are not required to undertake a damage stability assessment which means that there is no requirement to assess the effect of flooding of the cargo hold. Should damage occur and water start to enter the hold, there is a need for the crew to be aware of the situation so that appropriate mitigation actions can be taken.

This new regulation is in response to the sinking with loss of life of the “El Faro”, which, as a multi-hold ship, did not require a water level detection alarm to be fitted.

The draft amendments will require all ships not covered by the current regulations to have a water level detection alarm fitted irrespective of length, the presence of wing tanks or the applied damage stability standard. After discussion, MSC 102 added a paragraph that allows for an alternative of a bilge level alarm sensor located in the cargo hold bilge wells, or other suitable location in the aft end of the cargo holds, serving the bilge pumping arrangements required by regulation 35-1 and giving audible and visual alarms at the navigation bridge, may be fitted.

The implications and possible consequential amendments to performance standards will be considered at MSC 103.

Application: Once adopted, the new regulation will enter into force 1 January 2024 and apply to ships constructed on or after 1 January 2024. Tankers are excluded from the scope of application.

MSC.1/Circ.1573/Rev.2 Unified interpretations of SOLAS chapters II-1 and XII, of the technical provisions for means of access for inspections (Resolution MSC.158(78)) and of the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (Resolution MSC.118(79))

The amendments to section 3 of the annex to the MSC circular omit references to terms such as “normally open” which are considered ambiguous. The definition of “used” has also been amended to provide clarity. The existing Table 1 stating requirements for doors in internal watertight bulkheads and external watertight boundaries in passenger ships and cargo ships, has been replaced with a new table and now includes references to the appropriate chapters of SOLAS.

MSC.1/Circ.1628 Interim Guidelines for the second-generation intact stability criteria

These interim guidelines are intended for use as complimentary measures, when applying the requirements of the mandatory criteria of part A of the Intact Stability Code. Member States are encouraged to use them on a

trial basis and experience gained in their use will be fed back to IMO with a view to further refining the guidelines and making them fit for purpose.

Amendments to the 1988 Load Line Convention; the IBC and IGC Codes and MARPOL Annex I regarding watertight doors on cargo ships

In order to address inconsistencies in various IMO instruments, MSC 102 approved amendments to the 1988 Load Line Convention; the IBC and IGC Codes and noted the proposed amendments to MARPOL Annex I. These draft amendments align the requirements with respect to doors in watertight bulkheads with that of the SOLAS Convention:

- Draft amendments to the 1988 Load Line Protocol: regulation 27 (13)(a)
- Draft amendments to the IBC Code (subject to concurrent approval by MEPC 76): Chapter 2 paragraph 2.9.2.1
- Draft amendments to the IGC Code: Chapter 2 paragraph 2.7.1.1

In all cases the amendments add the following text to the requirements:

‘hinged watertight access doors with open/closed indication locally and at the navigation bridge and be of the quick-acting or single-action type that are normally closed at sea, hinged watertight doors that are permanently closed at sea and side scuttles of the non-opening type’.

Application: These amendments are expected to be adopted at MSC 103 and enter into force 1 January 2024. As they have no impact on existing ships it was decided that they should be applicable to all ships.

MSC 102 noted the draft amendments to MARPOL Annex I which are expected to be approved by MEPC 76.

Draft amendments to the 1988 Load Line Protocol

This is a minor correction to International Convention on Load Lines (ICLL) regulation 22 which removes the word ‘inlets’ to align the sentence with the wording of table 22.1. The draft amendment is expected to be adopted at MSC 103.

Industrial Personnel

(Agenda item 17)

With the increase in the development of offshore wind farms and other similar projects, there is an increasing need to transfer workers to the site to work on the construction of or to service existing installations. These workers have been termed “industrial personnel” (IP). Currently there is inconsistency in the requirements which are being applied by different flag Administrations when more than 12 IP are carried on a vessel. The SDC sub-committee is currently developing a new draft SOLAS chapter XV and a new draft International Code of Safety for Ships Carrying Industrial Personnel (IP Code).

In considering the work carried out at SDC 7, MSC 102:

- Agreed that the draft new SOLAS chapter XV will apply to new and existing ships intending to carry industrial personnel on or after the entry into force date of the new chapter.
- Agreed that, with the entry into force of the IP Code, existing ships certified under the *Interim Recommendations* (resolution MSC.418(97)) should be allowed to operate, provided that they also meet some of the operational and equipment requirements in the new IP Code, which can include a transitional period and decided that SDC 8 should develop grandfathering provisions for existing ships certified under the interim recommendations.

It was noted that due to the current restrictions caused by the coronavirus pandemic, SDC 8 is not scheduled to meet until March 2022 which would mean that new draft SOLAS chapter XV and the new draft IP Code could not be adopted in time for entry into force on 1 January 2024 as per the SOLAS 4-year amendment cycle. As these are considered to be exceptional circumstances, it was decided that an intersessional working group reporting to SDC 8 would meet this year to progress the work and that the new draft SOLAS chapter XV and the new draft IP Code would enter into force 18 months from adoption.

Safe Mooring

(Agenda item 3)

MSC 102 adopted the following:

Resolution MSC.474(102) Amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended (Amendments to SOLAS regulation II-1/3-8)

Four new paragraphs are added to the current regulation II-1/3-8, to address:

- **Design requirements:** New ships of 3,000 gross tonnage (gt) or above will have to be designed, and their mooring equipment (including ropes/wires) selected to ensure occupational safety and safe mooring of ships. Ship specific information will need to be included in the Towing and Mooring Arrangement Plan described in the new design guidelines given below. Approval of the plan by the flag Administration is not required.
- **Smaller ships:** New ships below 3,000 gt are encouraged to meet the requirements as far as practicable or alternatively meet applicable national standards.
- **Inspection and maintenance:** For all ships, regardless of size and date of construction, mooring equipment including lines will be subject to inspection and maintenance requirements. Guidance is provided in the new guidelines for inspection and maintenance of mooring equipment including lines given below.
- **Application:** The SOLAS amendments will enter into force 1 January 2024. Paragraphs 4-6 of this regulation on the provision of suitable arrangements, equipment and fittings apply to ships constructed on or after 1 January 2007. Paragraphs 7-8 on the design of ships apply to ships contracted for construction from 1 January 2024 and ships due for delivery on or after 1 January 2027.

It should be noted that MSC 102 approved the following circulars in conjunction with the adoption of the amendments to SOLAS II-1/3.8 (above): (please see [MSC 101 Summary report](#) for full details of the circulars).

MSC.1/Circ.1620 Guidelines on the design of mooring arrangements and the selection of appropriate mooring equipment and fittings for safe mooring (Design guidelines)

MSC.1/Circ.1621 Guidelines for inspection and maintenance of mooring equipment including lines (Maintenance guidelines)

MSC.1/Circ.1175/Rev.1 Revised guidance on shipboard towing and mooring equipment

It should be noted that this circular does not supersede MSC.1/Circ.1175 which remains applicable to ships constructed on or after 1 January 2007 but before 1 January 2024.

These circulars will be effective from 1 January 2024 in line with the entry into force of the amendments to SOLAS.

Fire Protection, Detection and Extinguishing

(Agenda item 19) (Urgent items only)

Additional Information
Lloyd's Register's [SSE 7 Summary report](#)

MSC 102 approved the following:

MSC.1/Circ.1430/Rev.2 Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces

The amendments clarify the required water discharge density and area coverage in tables 4-2 and 4-3.

Draft MSC resolution Amendments to Chapter 9 of the FSS Code

SSE 7 developed fault isolation requirements for individually identifiable fire detector systems (installed in lieu of section identifiable fire detector systems) on cargo ships and passenger ship cabin balconies.

The two systems can be defined as:

- **A section identifiable system** – "a system with the capability of identifying the section in which a detector or manually operated call point has activated" (paragraph 1.2.2 of chapter 9 of the FSS Code);
- **An individually identifiable system** – "a system with the capability to identify the exact location and type of detector or manually activated call point which has activated, and which can differentiate the signal of that device from all others" (paragraph 1.2.3 of chapter 9 of the FSS Code).

The draft amendments to the FSS Code chapter 9 add a new paragraph 2.1.8, thus:

"2.1.8 In cargo ships and in passenger ship cabin balconies, where an individually identifiable system is fitted, notwithstanding the provisions in paragraph 2.1.6.1, isolator modules need not be provided at each fire detector if the system is arranged in such a way that the number and location of individually identifiable fire detectors rendered ineffective due to a fault would not be larger than an equivalent section in a section identifiable system, arranged in accordance with paragraph 2.4.1."

Application: The amendments to the FSS Code are expected to be adopted at MSC 103 and to enter into force 1 January 2024. They will apply to new and existing cargo ships (when systems are re-fitted) and passenger ship cabin balconies to which SOLAS II-2 applies.

MSC.1/Circ.1635 Unified interpretation of SOLAS Chapter II-2

This unified interpretation clarifies that "isolated pantries containing no cooking appliances in accommodation spaces" are defined as pantries enclosed in an accommodation space and are only accessible from accommodation spaces and the open deck.

MSC 102 did not approve the following:

Draft MSC circular Amendments to the Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (MSC.1/Circ.1318/Rev.1)

There have been several recent incidents on board ships involving fixed carbon dioxide fire-extinguishing systems which have accidentally released into machinery spaces. Investigations have found that the unintended release of carbon dioxide from fire-extinguishing systems has caused 72 fatalities and 145 injuries, mainly in the marine industry, between 1975 and 2000.

The proposed draft amendments amend the periodical tests so that within a 20-year period all the cylinders should be subjected to a hydrostatic test. Likewise, flexible hoses should be replaced at the intervals recommended by the manufacturer but not exceeding 10 years.

After discussion, MSC 102 agreed to defer approval of these amendments until MSC 103 to give Administrations time to consider the impact to ships.

Life Saving Appliances and Arrangements

(Agenda items 19) (Urgent items only)

Additional Information Lloyd's Register's SSE 7 Summary report
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MSC 102 adopted the following:

Resolution MSC.480(102) Revised recommendation on the use and fitting of retro-reflective materials on life-saving appliances

The original resolution (A.658(16) 'Use and fitting of retro-reflective materials on life-saving appliances') requires the use of carbon arc testers for the accelerated weathering tests for retro-reflective materials. However, new technologies are progressively replacing carbon arc lamps making their use for testing increasingly difficult. This revised resolution allows for new and emerging technologies to be used for accelerated weathering tests of retro-reflective materials. Alternative light sources other than a carbon arc may be used and exposure times for such sources should give an equivalent degree of accelerated weathering.

This MSC resolution supersedes A.658(16) which will be revoked by Assembly 32 (Nov 2021).

MSC 102 approved the following:

MSC.1/Circ.1629 Revised standardized life-saving appliance evaluation and test report forms (personal life-saving appliances)

MSC.1/Circ.1630 Revised standardized life-saving appliance evaluation and test report forms (visual signs)

MSC.1/Circ.1631 Revised standardized life-saving appliance evaluation and test report forms (survival craft)

MSC.1/Circ.1632 Revised standardized life-saving appliance evaluation and test report forms (rescue boats)

MSC.1/Circ.1633 Revised standardized life-saving appliance evaluation and test report forms (Launching and embarkation appliances)

MSC.1/Circ.1633 Revised standardized life-saving appliance evaluation and test report forms (other life-saving appliances)

The *Standardized life-saving appliance evaluation and test report forms* (MSC/Circ.980) were approved in February 2001. Since then numerous amendments have been made to both the LSA Code and the *Revised recommendations on testing of life-saving appliances* (MSC.81(70) as amended) without equivalent amendments being made to MSC/Circ.980.

The new MSC.1/Circulars 1629 – 1633 inclusive contain a preamble, table of contents and introduction similar to that of the original circular, along with the new annexes containing the amended test forms in 6 separate circulars. The amendments incorporate the amendments to the LSA Code and MSC.81(70) since February 2001 up to and including those that entered into force 1 January 2020.

Draft MSC resolution amendments to SOLAS Chapter III, the LSA Code and MSC.81(70) as amended Draft MSC circular on Voluntary early implementation of the amendments to SOLAS Chapter III and the LSA Code

SOLAS regulation III/33.2 and paragraph 4.4.1.3.2 of the LSA Code currently refer to ‘lifeboats’ which could be read as ‘all lifeboats including free-fall lifeboats (FFLB)’. The text has been clarified to remove the requirements to launch free-fall lifeboats with the ship making headway at speeds up to 5 knots in calm water.

The amendments are expected to be adopted at MSC 103 and will enter into force 1 January 2024 or earlier if applied on a voluntary basis.

Amendments to footnotes in SOLAS and the LSA Code concerning escape route signs and equipment location markings

MSC 102 endorsed the recommendation from SSE 7 to amend the relevant footnotes in the SOLAS Convention and the LSA Code where the graphical symbols for shipboard fire control plans are referred to. These are consequential amendments stemming from the earlier adoption of A.1116(30) *Escape route signs and equipment location markings*. A.1116(30) did not revoke the earlier resolution (A.952(23)) and as the signs in the two resolutions differ and table 3 of resolution A.1116(30) does not include all the graphical symbols in resolution A.952(23), it is important to identify which resolution should be referred to in the mandatory texts and in what circumstances.

The revised footnotes will be included in the next publications of the SOLAS Convention and the LSA Code.

Onboard Lifting Appliances and Anchor Handling Winches (OLAW)

(Agenda item 19)

The IMO is finalising new mandatory requirements to cover lifting appliances and anchor handling winches and their associated items of loose gear. There are draft amendments to SOLAS and new supporting guidelines.

[MSC 102 approved the following:](#)

Draft amendments to SOLAS Chapter II-I

The amendments require new lifting appliances to be designed, constructed and installed in accordance with the requirements of a classification society which has been recognised by the Administration, and subsequently load tested and thoroughly examined. Anchor handling winches will have to meet the requirements of the Administration for design, construction, installation and testing. SOLAS will also require all lifting appliances and anchor handling winches to be tested, thoroughly examined, inspected, operated and maintained, based on the guidelines. Provision has also been made for inoperative equipment.

The draft amendments to SOLAS are expected to be adopted at a future session of MSC. It should be noted that if adoption of these amendments does not meet the deadline for entry into force on 1 January 2024, they will enter into force 18 months from adoption outside the 4-year amendment cycle for SOLAS.

Draft MSC circular Guidelines for lifting appliances

The supporting draft guidelines for lifting appliances include a list of definitions including design, construction and installation; load testing and thorough examination; demonstration of compliance; design, manufacturing and thorough examination of loose gear; and also records of inspection, maintenance, testing and thorough examination of inoperative lifting appliances and loose gear.

MSC 102 approved these guidelines in principle with a view to final approval in conjunction with the adoption of the draft amendments to SOLAS described above.

The draft guidelines for anchor handling winches will be finalised at SSE 8.

The Committee noted that the *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC) 2019 (A.1140(31))*, will need to be updated in due course.

MSC 102 referred the matter of training, familiarisation and qualifications of shore-based personnel operating shipboard lifting appliances and loose gear to the FAL Committee for consideration.

Polar Ships

(Agenda item 17)

Additional Information
Lloyd's Register [Polar Code page](#)

Safety measures for non-SOLAS vessels operating in polar waters

The Polar Code entered into force for new SOLAS ships constructed on or after 1 January 2017 and to existing ships at the first intermediate or renewal survey after 1 January 2018. It is not applicable to ships which do not have to comply with SOLAS, e.g. cargo ships less than 500 gross tonnage (gt), naval ships, fishing vessels, pleasure yachts, and ships not engaged on international voyages. However, given the number of fishing vessels and pleasure yachts which get into difficulties in the Polar waters and the complexities involved in conducting search and rescue (SAR) operations in these areas, the IMO previously agreed that recommendatory measures should be developed to cover these types of vessel.

MSC 102 noted the progress made by the SDC sub-committee on the draft guidelines for fishing vessels of 24m in length and over, operating in polar waters and decided that safety guidelines should be developed for pleasure yachts engaged in trade (i.e. commercial yachts) of 300 gt and above and less than 500 gt and for cargo ships of 300 gt and above and less than 500 gt, operating in polar waters. This will be added to the work already underway in the SDC sub-committee.

MSC 102 also noted the recently published and publicly available '*Guidelines for the development of a polar water operational manual*'.

Navigation and Communications

(Agenda item 16)

Additional Information

Lloyd's Register's [NCSR 6 Summary Report](#)

MSC 102 adopted the following:

Resolution MSC.481(102) Performance standards for shipborne Japanese Quasi-Zenith Satellite System (QZSS) receiver equipment

QZSS is a regional navigation satellite system which is compatible with other navigation satellite systems worldwide. It has been developed and is operated by Japan and consists of three major components: space constellation, a ground control system and user terminals. It should be noted that this is a regional system with coverage limited to the Asia-Oceania region.

The performance standards for shipborne QZSS receiver equipment have been developed by taking into account the shipborne GPS, GLONASS, BEIDOU and GALILEO receiver performance standards and the maritime requirements as specified in resolution A.1046(27) and resolution A.915(22).

MSC 102 approved the following:

SN.1/Circ.340 Recognition of the Indian Regional Navigation Satellite System (IRNSS) as a component of the World-wide radionavigation system (WWRNS)

IRNSS is a regional navigation satellite system, independently developed and operated by India. The IRNSS constellation was completed in May 2016 and provides positioning, navigation and timing (PNT) services for users in the region. NCSR 7 agreed to recommend to MSC the recognition of the Indian Regional Navigation Satellite System (IRNSS) as a component of the World-Wide Radionavigation System (WWRNS) for ocean areas only within a defined area. Coastal waters, inland waterways and ports are not included at this time.

It should be noted that MSC 99 adopted MSC.449(99) *Performance standards for shipborne Indian Regional Navigation Satellite System (IRNSS) receiver equipment*. This resolution applies to IRNSS equipment installed on or after 1 July 2020.

SN.1/Circ.243/Rev.2/Corr.1 Guidelines for the presentation of Navigation -related symbols, terms and abbreviations

This is a minor correction to the Appendix of Annex 1 which deletes the row on the MSI point symbol in Table 5: Other symbols.

MSC 102 noted:

Amendments to the IAMSAR Manual

MSC 102 noted that the ICAO/IMO Joint Working Group had finalised the draft amendments to the IAMSAR Manual for inclusion in the 2022 edition. These would normally be submitted to NCSR for subsequent approval by MSC. However, due to the rescheduling of the sub-committees the draft amendments will be submitted directly to MSC 103 for approval rather than NCSR 8.

Pollution Prevention and Response

(Agenda item 18)

Additional Information
Lloyd's Register's [PPR 7 Summary Report](#)

MSC 102 approved the following, subject to concurrent approval by MEPC 75:

The revised MSC-MEPC.5/Circ.7 Guidance on the timing of replacement of existing certificates by revised certificates as a consequence of the entry into force of amendments to chapters 17 and 18 of the IBC Code

This is the replacement for the existing International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk by a revised certificate that is required to be issued as a consequence of amendments to chapters 17 and 18 of the IBC Code.

MSC 102 also:

Endorsed retrospectively PPR.1/Circ.9 on Revised carriage requirements for methyl acrylate and methyl methacrylate.

This PPR 1 circular revises the carriage requirements for methyl acrylate and methyl methacrylate in order to mitigate the exposure to excessive heat and the possible initiation of the polymerisation process and notifies stakeholders that operational requirements 16.6.1 and 16.6.2 in the IBC Code apply to methyl acrylate and methyl methacrylate.

Human Element, Training and Watchkeeping

(Agenda item 13)

MSC 102 adopted the following:

Resolution MSC.478(102) Amendments to part B of the Seafarers' Training, Certification and Watchkeeping (STCW Code) (Amendments to table B-1/2)

These amendments improve the clarity of the guidance for Administrations, PSC authorities, recognised organisations and other relevant parties on certificates and documentary evidence required under the 1978 STCW Convention as amended. The notes that appear below the revised table, B 1/2, are also modified to ensure their alignment with the provisions of the STCW Convention and Code.

MSC 102 approved the following with a view to adoption at MSC 103:

Draft MSC resolution on amendments to the STCW Convention 1978 as amended

This amendment adds the following definition to regulation I/1.1:

".44 *High-voltage* means an alternating current (AC) or direct current (DC) voltage in excess of 1,000 volts."

Draft MSC resolution on amendment to section A-I/1 of the STCW Code

To include the capacity "electro-technical officer" in the definition of "operational level", as a consequential amendment to the introduction of this capacity as part of the 2010 Manila Amendments.

MSC 102 noted the work of the HTW sub-committee to convert the STCW model courses into e-learning model courses and the change of approach that means that the model courses have become tools to assist in the development of training courses rather than courses that are ready to be developed.

Implementation of IMO Instruments

(Agenda item 14)

Additional Information
Lloyd's Register's [III 6 Summary report](#)

MSC 102 noted that the III 6 Sub-Committee approved the Survey Guidelines under the *Harmonized System of Survey and Certification (HSSC) 2019*, which were adopted by IMO Assembly 31 as A.1140(31). Discussion on proposals to change the way the HSSC Survey Guidelines are updated were postponed until MSC 103.

Carriage of cargoes and containers

(Agenda item 15)

Additional Information
Lloyd's Register's [CCC 6 Summary report](#)

MSC 102 approved the following:

MSC.1/Circ.1622 Interim guidelines for the safety of ships using methyl/ethyl alcohol as fuel

These interim guidelines provide provisions for the arrangement, installation, control and monitoring of machinery, equipment and systems using methyl/ethyl alcohol as fuel to minimise the risk to the ship, its crew and the environment, having regard to the nature of the fuels involved.

They follow a goal-based approach by specifying goals and functional requirements for each section forming the basis for the design, construction and operation of ships using methyl/ethyl alcohol as fuel.

Application: The guidelines are applicable to all ships wishing to use methanol or ethanol as a fuel.

MSC.1/Circ.1623 Guidelines for the acceptance of alternative metallic materials for cryogenic service in ships carrying liquefied gases in bulk and ships using gases or other low-flashpoint fuels

These guidelines provide help with the approval of other metallic materials which could be used in low temperature situations. They are designed for materials where temperatures range from 0°C to -165°C, although they can be used to lower temperatures with specific agreement of the Administration. They cover plate with a thickness up to 40 mm, manufactured by rolling, extrusion, casting or forging and include advice on material specification; testing and acceptance criteria.

Application: These guidelines will be available for use on all ship types.

MSC.1/Circ.1599/Rev.1 Revised interim guidelines on the application of high manganese austenitic steel for cryogenic service

The amendments will extend the application to plates with a thickness up to 40 mm and include forgings and castings.

MSC.1/Circ.1624 Amendments to the Code of Safe Practice for Cargo Stowage and Securing (CSS Code)

In addition to a reduction curve the draft amendments include:

- Longitudinal tipping.
- The effects of friction on longitudinal sliding.
- The safe load for stoppers, buttresses and similar structures.
- An extension to the table for the correction factors for acceleration when B/GM is less than 13 to cover B/GM values of 3 to 6 (the current table only covers values from 7 to 13).
- Requirements for the lashing of large cargo items.

Application: To ships carrying semi-standardised and non-standardised cargo including very heavy and/or very large cargo items.

It should be noted that OCIMF has released a publication on the securing of deck cargoes on offshore support vessels.

MSC 102 also approved consequential amendments to the following IMO instruments:

MSC.1/Circ.1353/Rev.2 Guidelines for the preparation of the Cargo Securing Manual

These guidelines ensure that Cargo Securing Manuals cover all aspects of cargo stowage and securing and help to provide a uniform approach to the preparation of the manuals. They have been revised to take account of the amendments to the Code of Safe Practice for Cargo Stowage and Securing (CSS Code), as above. The Cargo Securing Manual is required on all types of ships engaged in the carriage of cargoes other than solid and liquid bulk cargoes.

Resolution MSC.479(102) Revised Guidelines for securing arrangements for the transport of road vehicles on ro-ro ships

In the annex, paragraph 6 'Lashings' is amended as follows (new text, ~~deleted text~~):

"6.1 The maximum securing load (MSL) of lashings should in general not be less than 100 kN and they should be made of material having suitable elongation characteristics. However, ~~for vehicles not exceeding 15 tonnes (GVM), lashings with lower MSL values may be used.~~ The the required number and MSL of lashings may be calculated according to annex 13 to the Code of Safe Practice for Cargo Stowage and Securing (CSS Code), taking into consideration the criteria mentioned in paragraph 1.5.1 of the Code."

This MSC resolution supersedes A.581(14) which will be revoked by Assembly 32 (Nov 2021).

MSC.1/Circ.1625 Amendments to the Code of Safe Practice for Ships Carrying Timber Deck Cargoes, 2011 (2011 TDC Code)

Part B Chapter 6 has been amended so that the cargo securing arrangement should follow the calculations in Annex 13 of the revised CSS Code. The example calculations in Annex B /B.5 & B.6 have also been amended.

IGF Code

MSC 102 adopted the following:

Resolution MSC.475(102) Amendments to the International Code of Safety for Ships using Gases or other Low-flashpoint fuels (IGF Code)
(Amendments to paragraph 6.7.1.1 and chapter 11 of the IGF Code)

This amendment removes ambiguity from paragraph 6.7.1.1 by deleting the term “tank cofferdams”.

A new regulation 11.8 is added which requires fuel preparation rooms containing pumps, compressors or other potential ignition sources to be provided with a fixed fire-extinguishing system complying with the provisions of SOLAS II-2/10.4.1.1.

Application: The amendments will enter into force 1 January 2024. The amendment to paragraphs 6.7.1.1 is considered to be a matter of clarification and applicable to all IGF Code certified ships retrospectively. The new regulation 11.8 will apply to ships constructed on or after 1 January 2024.

Resolution MSC.475(102) Amendments to the International Code of Safety for Ships using Gases or other Low-flashpoint fuels (IGF Code)
(Amendments to paragraph 16.3.3.5.1 of the IGF Code concerning tensile tests for materials other than aluminium alloys)

These amendments are consequential to the guidelines on the application of high manganese austenitic steel for cryogenic service (MSC.1/Circ.1599) agreed at MSC 100. The amendment makes the tensile test requirement more generally applicable by the addition of the text ‘For materials such as aluminium alloys....’.

Application: The amendments will enter into force 1 January 2024. They will apply to all IGF Code certified ships.

IGC Code

MSC 102 adopted the following:

Resolution MSC.476(102) Amendments to the International Code for the Construction and Equipment of Ships carrying Liquefied Gasses in Bulk (IGC Code)
(Amendments to paragraph 6.5.3.5.1 of the IGC Code concerning tensile tests for materials other than aluminium alloys)

These amendments are consequential to the *guidelines on the application of high manganese austenitic steel for cryogenic service* (MSC.1/Circ.1599) agreed at MSC 100. The amendment makes the tensile test requirement more generally applicable by the addition of the text ‘For materials such as aluminium alloys.....’.

Application: The amendments will enter into force 1 January 2024. They will apply to all ships which are subject to the IGC Code.

MSC 102 approved the following:

MSC.1/Circ.1626 Unified Interpretations of the IGC Code

This circular includes interpretations on the following:

- Tee welds in type A or type B independent tanks and welds of type C independent bi-lobe tank with centreline bulkhead. (para 4.20.1.1 & 4.20.1.2)

- Clarification of the meaning of the term 'duct' and the pressure for which the outer duct should be designed and tested. (para 5.4.4 & 5.13.1.1.2)
- Clarification that these requirements for connections for cargo sampling and how they are taken are only applicable when such connections are fitted on board and that they do not apply to connections used for the control of atmosphere in cargo tanks during inerting or gassing up. (para 5.6.5 & 18.9)
- Clarification that two approaches are needed with regards to para 5.6.6 that means shall be provided to indicate that the filters fitted in the cargo liquid and vapour systems are becoming blocked; and a means to isolate, depressurise and clean the filters safely is provided. As filters can be either fixed in-line or portable, different approaches to meeting these requirements are needed. (para 5.6.6)
- Clarification on thermal insulation to be provided for cargo piping systems. (para 5.12.3.1)
- Differentiation of valves according to their use and certification requirements. (para 5.13.1.1.2)
- Guidance on the sizing of valves for pressure release systems. (para 8.1)
- Clarification on the capacity of the emergency fire pump. (para 11.2 & 11.3.4)
- Water spray systems. (para 11.3.1, 11.3.3 & 11.3.4)
- Maintenance of liquid level gauges. (para 13.2.2)
- Clarification that a hardware system is required to inhibit inadvertent operation of the override for the overflow control system. (para 13.3.7 & Table 18.1)
- Oxygen deficiency monitoring requirements. (para 13.6.4)
- Risk assessments for integrated systems. (para 13.9.3)
- Clarification of the special requirements for gas-fired internal combustion engines concerning arrangements against overpressure due to ignited gas leaks. Two different types of gas-fuelled engines exist, premixed combustion type and direct injection combustion type. (para 16.7.1.4)

It should be noted that unified interpretations are intended to clarify the text and do not change the regulation.

IMDG Code

MSC 102 adopted the following:

Resolution MSC.477(102) Amendments to the International Maritime Dangerous Goods (IMDG) Code(40-20)

The IMDG Code is regularly reviewed to take into account new requirements for existing substances or new substances. The Editorial & Technical (E&T) Group meets intersessionally to review proposed amendments to the Code and reports to the CCC sub-committee.

In addition to the regular updates to classification, segregation, packing and marking of dangerous goods, Amendment 40-20 includes:

- Segregation requirements for alcoholates
- Amendments to SG 53 and SG 48 regarding liquid organic substances
- Amendments to UN 1361 PG II and UN 1362 to clarify the differences between carbon-related substances particularly with regard to charcoal
- A new special provision and handling code for medical waste

Amendments have also been made to the footnotes in the IMDG Code. Footnotes are considered to be advisory or recommendatory (non-mandatory) and mandatory text should be avoided. Several footnotes in the IMDG Code were found to be mandatory. These have now been included in the main body of the Code.

These amendments will enter into force 1 June 2022 with voluntary early application from 1 January 2021.

MSC 102 approved the following:

MSC.1/Circ.1619 Amendments to the Revised Emergency Response Procedures for Ships Carrying Dangerous Goods (MSC.1/Circ.1588) (EmS Guide)

These are consequential amendments resulting from amendment 40-20 to the IMDG Code detailed above.

MSC.1/Circ.1627 Unified Interpretation of the IMDG Code

This unified interpretation addresses the use of the term 'Life-saving appliances' in paragraph 7.1.4.4.2 which is interpreted as follows:

"Life-saving appliances (paragraph 7.1.4.4.2)

The term "life-saving appliances" means the vessel's main survival craft and rescue boat(s) as required by SOLAS regulations III/21 or III/31.1 and is not intended to mean other life-saving appliances, such as lifebuoys, additional liferafts as required by SOLAS regulation III/31.3.2 and III/31.1.4 and any lifejackets and immersion suits associated with such liferafts."

Any Other Business

(Agenda item 22)

MSC 102 only considered matters related to the COVID-19 pandemic under this agenda item. All other papers submitted have been deferred to MSC 103.

After extensive discussion, MSC 102 approved the following:

MSC.1/Circ.1637 The Industry recommended framework of protocols for ensuring safe ship crew changes and travel during the Coronavirus (COVID-19) pandemic

This framework of protocols expands on the recommendations in [IMO Circular Letter No.4204/Add.6](#) (27 March 2020), and sets out general measures and procedures that should, as far as is practicable, be undertaken by all stakeholders concerned to facilitate safe ship crew changes during the COVID-19 pandemic.

The creation of a GISIS module to disseminate information on ports facilitating crew changes

The IMO Secretariat have undertaken to develop a new GISIS module to register ports which facilitate crew changes and disseminate information to enable shipping companies to easily plan and organise crew changes during the COVID-19 pandemic.

Development of a universal non-text logo to aid seafarers to access and navigate available services

MSC 102 agreed to the development of a non-text logo that enables seafarers to identify, and consequently access, dedicated resources and processes on ships, in port and in transit to/from ships. The IMO Secretariat will work with ICAO and ILO to develop such a logo and revert to MSC 103.

MSC.1/Circ.1638 Unified interpretation of SOLAS regulation II-1/3-10 concerning the term 'unforeseen delay in the delivery of ships' during the Coronavirus (COVID-19) pandemic

This unified interpretation allows that a ship for which the building contract (or keel laying) occurred, and scheduled delivery date was, before the dates specified in SOLAS II-1/3-10, but where the delivery has been subject to delay beyond the specific date due to unforeseen circumstances beyond the control of the builder and the owner, may be accepted by the Administration, on a case-by-case basis, as a ship delivered before the date of delivery specified in SOLAS II-1/3-10.

MSC 102 also considered:

Proposal to develop guidance on remote surveys in response to increase in their use during the COVID-19 pandemic

MSC 102 agreed that developing guidelines on remote surveys should be discussed further and recognised that it would require detailed technical consideration by the technical sub-committees. In order to facilitate this, MSC 102 invited interested parties to submit a new output proposal to a future session of MSC.



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