MARINE & OFFSHORE DIVISION MANAGEMENT
L-C&R

MSC 103 - 5 TO 14 MAY 2021
MAJOR OUTCOMES OF THE 103RD SESSION OF THE MARITIME SAFETY COMMITTEE

SUMMARY

The 103rd session of the Maritime Safety Committee was held remotely from 5 to 14 May 2021.

MSC 103 adopted following resolutions :

- Resolution MSC XXX .(103) - Amendments to chapters II-1 and III of the annex to the 1974 SOLAS Convention, concerning new regulation II-1/25-1 on water level detectors on multiple hold cargo ships other than bulk carriers and tankers, and on survival craft embarkation and launching arrangements (**item 3**) ;
- Res. MSC XXX(103) – Amendments to the international code on the enhanced programme of inspections during surveys of bulk carriers and oil tankers, 2011 (2011 ESP CODE), annex 2 (Minimum requirements for thickness measurements at renewal surveys of double-hull oil tankers) of part A of annex B to the 2011 ESP Code, concerning minimum requirements for thickness measurements at renewal surveys of double-hull oil tankers (**item 3**) ;
- Res. MSC XXX(103) – amendments to the international code for fire safety systems (FSS Code), amending chapter 9 (Fixed fire detection and fire alarm systems), concerning fault isolation requirements for cargo ships and passenger ship cabin balconies fitted with individually identifiable fire detector systems (**item 3**) ;
- Res MSC XXX(103) – Amendments to the international convention on standards of training, certification and watchkeeping for seafarers (STCW), 1978, amending chapter I (General provisions), concerning the inclusion of a new definition of the term "high-voltage" (**item 3**).

MSC 103 approved following circulars:

- Res MSC XXX(103) – Amendments to the international life-saving appliance code (LSA CODE), amending chapter IV (Survival craft) (**item 3**) ;
- Res. MSC XXX(103) – Amendments to the revised recommendation on testing of life-saving appliances (Res MSC.81(70)) (**item 3**) ;
- MSC.1/ Circ. - Guidelines for fishing vessels of 24 m in length and over operating in polar waters (**item 15**) ;
- MSC.1/ Circ. Guidelines for pleasure yachts of 300 gross tonnage and above not engaged

in trade operating in polar waters (**item 15**) ;

- MSC.1/Circ.1318/Rev.1 - Revised Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (**item 16**).

MSC 103 also :

- approved the outcome of the regulatory scoping exercise (RSE) for the use of maritime autonomous surface ships (MASS) (**item 5**) ;
- prepared the draft SOLAS amendments on the reporting of confirmed cases where oil fuel suppliers have failed to meet the flashpoint requirements (**item 6**) ;
- prepared the draft SOLAS amendments on actions against oil fuel suppliers that have been found to deliver oil fuel that does not comply with minimum flashpoint requirements (**item 6**) ;
- prepared the list of items to be addressed by the guidelines for ships to address situations where indicative test results suggest that the oil fuel supplied may not comply with SOLAS regulation II-2/4.2.1 (**item 6**) ;
- approved a draft action plan for the development of measures to enhance the safety of ships relating to the use of oil fuel (**item 6**) ;
- approved the basic structure of the framework Model Regulations on Domestic Ferry Safety (**item 8**) ;
- approved the dissemination of the fourth version of The Guidelines on cyber security onboard ships (**item 9**) ;
- requested the Secretariat to update the industry guidance listed in paragraph 4.2 of the Guidelines on maritime cyber risk management (MSC-FAL.1/Circ.3) to include the consolidated IACS Recommendation on cyber resilience (Recommendation 166) and issue MSC-FAL.1/Circ.3/Rev.1 (**item 9**) ;

Following new outputs has been included to biennial agendas 2022-23 of sub-committees :

- Development of amendments to SOLAS chapter II- 2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of containerships (SSE) ;
- Development of amendments to SOLAS regulation II-1/3-4 to apply requirements for emergency towing equipment for tankers to other types of ships (SDC).

Due to time constraints, following items have been deferred to MSC 104:

- Updating the Harmonized System of Survey and Certification (HSSC) Guidelines;
- GBS.

MSC 103 has established a Correspondence group on the development of further measures to enhance the safety of ships relating to the use of oil fuel

Item 3 – Consideration and adoption of amendments to mandatory instruments

Mandatory instruments

Proposed amendments to the 1974 SOLAS convention

MSC 103 has adopted Resolution MSC XXX .(103) - Amendments to chapters II-1 and III of the annex to the 1974 SOLAS Convention, concerning new regulation II-1/25-1 on water level detectors on multiple hold cargo ships other than bulk carriers and tankers, and on survival craft embarkation and launching arrangements.

CONSTRUCTION – STRUCTURE, SUBDIVISION AND STABILITY, MACHINERY AND ELECTRICAL INSTALLATIONS

Part B-4 Stability management

The following new regulation 25-1 is added after existing regulation 25 with the associated footnotes:

"Regulation 25-1

Water level detectors on multiple hold cargo ships other than bulk carriers and tankers

1 Multiple hold cargo ships other than bulk carriers and tankers constructed on or after 1 January 2024 shall be fitted with water level detectors in each cargo hold intended for dry cargoes. Water level detectors are not required for cargo holds located entirely above the freeboard deck.

2 The water level detectors required by paragraph 1 shall:

.1 give audible and visual alarms at the navigation bridge, one when the water level above the bottom of the cargo hold reaches a height of not less than 0.3 m, and another at a height not less than 15% of the depth of the cargo hold but not more than 2 m; and

.2 be fitted at the aft end of the cargo holds. For cargo holds which are occasionally used for water ballast, an alarm overriding device may be installed. The visual alarms shall clearly discriminate between the two different water levels detected in each hold.

3 As an alternative to the water level detector at a height of not less than 0.3 m as per sub-paragraph 2.1, a bilge level sensor* serving the bilge pumping arrangements required by regulation 35-1 and installed in the cargo hold bilge wells or other suitable location is considered acceptable, subject to:

.1 the fitting of the bilge level sensor at a height of not less than 0.3 m at the aft end of the cargo hold; and

.2 the bilge level sensor giving audible and visual alarm at the navigation bridge which is clearly distinctive from the alarm given by the other water level detector fitted in the cargo hold.

CHAPTER III
LIFE-SAVING APPLIANCES AND ARRANGEMENTS

Part B
Requirements for ships and life-saving appliances

Regulation 33 – Survival craft embarkation and launching arrangements

1 Paragraph 33.2 is replaced, as follows:

"2 On cargo ships of 20,000 gross tonnage and upwards, davit-launched lifeboats shall be capable of being launched, ~~where necessary~~ utilizing painters where necessary, with the ship making headway at speeds up to 5 knots in calm water."

The draft amendments to chapters II-1 and III of the annex to the 1974 SOLAS Convention should be deemed to have been accepted on 1 July 2023 and enter into force on 1 January 2024.

Draft amendments to the LSA Code

Following adoption of amendments to SOLAS regulation III/33.2 on survival craft embarkation and launching arrangements, MSC 103 has also adopted Res MSC XXX(103) – amendments to the international life-saving appliance code (LSA CODE), amending chapter IV (Survival craft) of the LSA Code concerning the exclusion of free-fall lifeboats from the requirement of being capable of launching and towing when the ship is making headway at a speed of up to 5 knots in calm water.

CHAPTER IV
SURVIVAL CRAFT

4.4 General requirements for lifeboats

1 Paragraph 4.4.1.3.2 is replaced as follows:

".2 except for free-fall lifeboats, be capable of being launched and towed when the ship is making headway at ~~a~~ speeds of up to 5 knots in calm water."

Draft amendments to the LSA Code should be deemed to have been accepted on 1 July 2023 and enter into force on 1 January 2024

MSC 103 also approved a MSC.1/Circ. on voluntary early implementation of the draft amendments to SOLAS chapter III and the LSA Code, in conjunction with the adoption of the draft amendments to SOLAS regulation III/33.2 (and paragraph 4.4.1.3.2 of the LSA Code regarding testing requirements of free-fall lifeboats – see below). Voluntary early implementation should be communicated by a Contracting Government to the Organization for dissemination through GISIS.

MSC 103 has approved Res. MSC XXX(103) – Amendments to the revised recommendation on testing of life-saving appliances (Res MSC.81(70)), in conjunction with the draft amendments to SOLAS chapter III and the LSA Code In addition.

Part 2 – Production and installation tests

5 SURVIVAL CRAFT

5.4 Launch test

1 Paragraph 5.4 is replaced, as follows:

"Except in the case of a free-fall lifeboat, it It should be demonstrated that the fully equipped lifeboat on cargo ships of 20,000 gross ~~tons or more~~ tonnage and upwards and rescue boat can be launched from a ship proceeding ahead at a speed of not less than 5 knots in calm water and on an even keel. There should be no damage to the lifeboat or the rescue boat or their equipment as a result of this test."

Proposal to revise the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (resolution MSC.188(79))

MSC 103 considered proposal to revise the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (resolution MSC.188(79)) as a consequential amendment following the adoption of draft new SOLAS regulation II-1/25-1 and has instructed the SDC Sub-Committee to review the Performance Standards to include provisions for detectors for multiple hold cargo ships and to consider the equivalency between bilge alarms and water level detectors.

Draft amendments to the 2011 ESP Code

MSC 103 has adopted Res. MSC XXX(103) – Amendments to the international code on the enhanced programme of inspections during surveys of bulk carriers and oil tankers, 2011 (2011 ESP CODE), to annex 2 (Minimum requirements for thickness measurements at renewal surveys of double-hull oil tankers) of part A of annex B to the 2011 ESP Code, concerning minimum requirements for thickness measurements at renewal surveys of double-hull oil tankers

ANNEX B
CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF OIL TANKERS

Part A
CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF DOUBLE-HULL OIL TANKERS

ANNEX 2
MINIMUM REQUIREMENTS FOR THICKNESS MEASUREMENTS AT RENEWAL SURVEYS OF DOUBLE-HULL OIL TANKERS

1 In the table for "Minimum requirements for thickness measurements at renewal surveys of double-hull oil tankers", the column for "Renewal Survey No.1" is amended, as follows:

"1 One section of deck plating for the full beam of the ship within the cargo area

~~3~~ Suspect areas"

Draft amendments to the 2011 ESP Code should be deemed to have been accepted on 1 July 2022 and enter into force on 1 January 2023.

Proposed amendments to the 2011 ESP, IGC, FSS AND LSA codes, mandatory under the 1974 SOLAS convention

Draft amendments to the IGC, IBC Codes and to the 1988 Load Lines Protocol

MSC 101 had agreed on a new output to review the mandatory requirements in SOLAS, MARPOL, the 1988 Load Lines Protocol and the IBC and IGC Codes regarding watertight doors on cargo ships, to address inconsistencies and that the amendments to be developed should apply to new ships. MSC 102 had approved the draft amendments to chapter 2 (Ship survival capability and location of cargo tanks) of the IGC Code concerning watertight doors on cargo ships.

SDC 7 reviewed all relevant requirements and finalized the draft amendments to MARPOL, the Load Lines Convention and the IBC and IGC Codes for submission to MSC 102 and MEPC 76, for approval with a view to subsequent adoption and entry into force on 1 January 2024 for new ships only. MSC 102 approved the amendments for adoption at MSC 103.

MSC 103 was seized of proposal of modifications to the draft amendments to the IGC Code, together with the same modifications to MARPOL, the 1988 Load Lines Protocol and the IBC Code amendments to extend the requirement for quick acting or single-action type arrangement to hinged watertight doors that were kept ”permanently closed" at sea.

After some discussions, MSC 103 did not agree with the modifications proposed noting that they would also apply to the draft amendments to the 1988 Load Lines Protocol, and deferred to MSC 104 the consideration of the necessity for an application provision and the adoption of the proposed amendments to the 1988 Load Lines Protocol and the IGC Code to MSC 104.

MSC 102 had approved draft amendments to chapters II (Conditions of assignment of freeboard) and III (Freeboards) of annex I (Regulations for determining load lines) of annex B to the 1988 Load Lines Protocol concerning amendments to the acceptable arrangements of scuppers and discharges, as well as satisfactory condition of equilibrium after flooding, respectively. Having recalled its decision concerning proposed identical modifications to the IGC Code, MSC 103 deferred the consideration of the necessity for an application provision in the draft amendments to the Protocol and their adoption to MSC 104

Draft amendments to the FSS Code

MSC 103 has adopted Res. MSC XXX(103) – amendments to the international code for fire safety systems (FSS Code), amending chapter 9 (Fixed fire detection and fire alarm systems) of the FSS Code, concerning fault isolation requirements for cargo ships and passenger ship cabin balconies fitted with individually identifiable fire detector systems.

CHAPTER 9
FIXED FIRE DETECTION AND FIRE ALARM SYSTEMS

2 Engineering specifications

2.1 General requirements

1 The following new paragraph 2.1.8 is inserted after existing paragraph 2.1.7:

"2.1.8 In cargo ships and on 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."

Short circuit isolators do not need to be provided at each individually identifiable fire detector for cargo ships and for passenger ships balconies. For cargo ships, one per deck would be acceptable.

The draft amendments to the FSS Code should be deemed to have been accepted on 1 July 2023 and enter into force on 1 January 2024.

Draft amendments to the 1978 STCW Convention

MSC 103 has adopted Res MSC XXX(103) – Amendments to the international convention on standards of training, certification and watchkeeping for seafarers (STCW), 1978, amending chapter I (General provisions) of the 1978 STCW Convention, concerning the inclusion of a new definition of the term "high-voltage".

CHAPTER I
General provisions

1 In regulation I/1.1, the following new definition is added:

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

The draft amendments to the 1978 STCW Convention should be deemed to have been accepted on 1 July 2022 and enter into force on 1 January 2023.

Item 5 - Regulatory scoping exercise for the use of maritime autonomous surface ships (MASS)

MSC 100 had approved the framework for the regulatory scoping exercise for the use of MASS and noted that, in accordance with this plan, the regulatory scoping exercise (RSE) should have been completed at MSC 102 in May 2020 but that due to the pandemic the work was delayed and thus should be completed at MSC 103.

MSC 103 has approved the outcome of the regulatory scoping exercise (RSE) and agreed that member States would need to submit proposals for the way forward. The outcome of the RSE will be regularly reviewed and updated owing to the fast changing development in the sector.

Outcome of the RSE for the use of maritime autonomous surface ships (MASS)

The outcome of the RSE provides the assessment of the degree to which the existing regulatory framework under its purview might be affected in order to address MASS operations. It further provides guidance to MSC and interested parties to identify, select and decide on future work on MASS.

The results of the RSE are to be published as an MSC circular.

To facilitate the process of the RSE, the degrees of autonomy were organized as follows:

- Degree One: Ship with automated processes and decision support: Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated and at times be unsupervised but with seafarers on board ready to take control.
- Degree Two: Remotely controlled ship with seafarers on board: The ship is controlled and operated from another location. Seafarers are available on board to take control and to operate the shipboard systems and functions.
- Degree Three: *Remotely controlled ship without seafarers on board:* The ship is controlled and operated from another location. There are no seafarers on board.
- Degree Four: *Fully autonomous ship:* The operating system of the ship is able to make decisions and determine actions by itself.

As a first step, containing the "initial review of IMO instruments", provisions in IMO instruments were identified which, as currently drafted:

A applied to MASS and prevented MASS operations; or
B applied to MASS and did not prevent MASS operations and required no actions; or
C applied to MASS and did not prevent MASS operations but might need to be amended or clarified, and/or might contain gaps; or
D had no application to MASS operations.

Table 2 below indicates the instruments under the remit of the MSC, including SOLAS chapters, where the common potential gaps and/or themes were identified, thus indicating the potential links between instruments.

	Common potential gaps and/or themes	**Instruments**
1	Meaning of the terms master, crew or responsible person	SOLAS chapters II-2, III, V, VI, VII IX and XI-1, COLREG, TONNAGE 1969, 1966 LL Convention and 1988 Protocol, Intact Stability Code, III Code, STCW Convention and Code
2	Remote Control Station/Centre	SOLAS chapters II-1, II-2, III, IV, V IX and XI-1, STCW Convention and Code, FSS, ISM, 1966 LL Convention and 1988 Protocol, Casualty Investigation Code
3	Remote Operator as a seafarer	STCW, STCW-F, SOLAS chapter IX, ISM
4	Provisions containing manual operations, alarms to the bridge	SOLAS chapters II-1, II-2, VI and IX, 1966 LL Convention and 1988 Protocol, Intact Stability Code, III Code
5	Provisions requiring actions by personnel (Fire, Spillage Cargo Management, onboard maintenance, etc.)	SOLAS chapters II-2, VI, VII, IX and XII
6	Certificates and manuals on board	SOLAS chapters III, XI-1, XI-2 and XIV
7	Connectivity, Cybersecurity	SOLAS chapters IV, V and IX
8	Watchkeeping	SOLAS chapters IV and V, COLREG
9	Implication of MASS in SAR	SOLAS chapters III, IV and V, SAR
10	Information to be available on board and required for the safe operation	SOLAS chapters II-1and II-2

11	Terminology	SOLAS chapters II-1, IV and V, COLREG, FSS, IBC, IGC, Grain, INF, 1966 LL Convention and 1988 Protocol, Intact Stability Code, SAR, TONNAGE, CSS, Casualty Investigation Code

Some common potential gaps and/or themes are at the core of how to introduce MASS operation safely and effectively in the regulatory framework and are regarded as high- priority issues that cut through several IMO instruments and may require a policy decision before addressing individual instruments :

- Meaning of the terms master, crew or responsible person
- Remote control station/centre
- Remote operator as seafarer
- Terminology

Several delegations were of the view that the development of common terminology and definitions was of utmost importance. Experts agreed, however, that terminology and definitions would be introduced largely in parallel with the development of requirements for MASS operations and any attempt to have a comprehensive list of terminology beforehand would likely be incomplete and based on vague assumptions. Nevertheless, they concurred that agreement on high-level and conceptual terminology, such as degree of autonomy and a definition of MASS itself, should be developed first.

At MSC 101 it was requested of ISO to provide a report on its standardization work related to a terminology for MASS. This terminology is still in working group stage and has not yet been distributed for international commenting among ISO TC8's members.

Once the first step was completed, **a second step** was conducted to analyse and determine the most appropriate way of addressing MASS operations :

I equivalences asprovided for by the instruments or developing interpretations; and/or
II amending existing instruments; and/or
III developing new instruments; or
IV none of the above as a result of the analysis.

The most appropriate way(s) of addressing MASS operations in the instruments classified as high-priority is set out hereinafter, with the following four options:

IMO Instruments	**The most appropriate way(s) of addressing MASS operations**			
Degree of Autonomy	**One**	**Two**	**Three**	**Four**
SOLAS II-1	IV	II	II - III	II - III
SOLAS II-2	IV	II - III	II - III	II - III
SOLAS III	IV	II - III	III	III
SOLAS IV	II	II - III	III	III
SOLAS V	II	II - III	III	III
SOLAS VI	IV	II - III	II - III	II - III
SOLAS VII	IV	II - III	II - III	II - III
SOLAS IX	IV	III	III	III
SOLAS XI-1	IV	III	I - III	I - III
SOLAS XI-2	I - II	II - III	II - III	II - III
COLREG	I	I - II	I - II	II

STCW	I - II	I - II - III	I - II - III	IV
STCW-F	I - II	I - II - III	I - II - III	IV
LL 1966 + 1988 Protocol	IV	II	II	II
SAR 1979	IV	II	II	II
TONNAGE 1969	IV	I	I	I
IMDG Code	IV	II- III	II - III	II - III
IMSBC Code	IV	II- III	II - III	II - III
FSS Code	IV	II- III	II - III	II - III
IBC Code	IV	II- III	II - III	II - III
IGC Code	IV	II- III	II - III	II - III

The most appropriate way(s) of addressing MASS operations of the medium-priority instruments is set out in table below :

IMO Instruments	**The most appropriate way(s) of addressing MASS operations**			
Degree of Autonomy	One	Two	Three	Four
SOLAS XII	IV	II - III	II - III	II - III
CSS Code	IV	II - III	II	II
Casualty Investigation Code	IV	II	II	II
III Code	IV	II	II	II
Grain Code	IV	II - III	II - III	II - III
INF Code	IV	II - III	II - III	II - III
IS Code	IV	II	II	II
Standards for owners' inspection and maintenance of bulk carrier hatch covers	IV	IV	II - III	II - III

Development of interim guidelines

Some delegations proposed that interim guidelines should be developed to close the safety gap for those ships that already used or were about to use autonomous technology until such time when these gaps were closed by mandatory requirements for MASS operations. Bearing in mind that the earliest entry into force date for such mandatory requirements would be 1 January 2028, the need to develop guidance was considered evident.

However, the majority of delegations were wary of recommending the development of MASS guidelines. The question was raised as to how IMO could verify and validate the provisions of future proposals for MASS guidelines, in particular those that governed technical aspects of autonomous systems (e.g. communication systems) so as to ensure that MASS operated safely.

Priorities for further work on MASS

Experts set out to list issues in greatest need of attention, as set out in following table :

Issue		Planned activities and result
1	**Consideration of a holistic approach to MASS operations in IMO instruments**	
	Development of a goal-based MASS instrument	Consideration on how to develop a new MASS instrument and draft amendments to the applicable instruments through which it can be made mandatory
	Definition of MASS	Consideration on need to revise definition and/or degrees and if revision is deemed necessary, agreeing on the definition and/or degrees
	Terminology for MASS operations in the IMO regulatory framework	Consideration on need of supplementing terminology, and if deemed necessary, agreeing on such terminology
	High-priority common gaps and themes in relation to MASS operations and IMOs regulatory framework: - Meaning of Master, crew or responsible person - Remote control station/centre - Remote operator designated as seafarer	Consideration of the high-priority common gaps and themes
	Non-mandatory instrument	Consideration of the development of guidelines for MASS operations such as guidelines for installation and guidelines for system application

Many delegates concurred that the best way forward to introduce MASS in the IMO regulatory framework could preferably be addressed in a holistic manner through the development of a goal-based MASS instrument. And if a new instrument were the preferred option then it should be goal-based, in line with the guidance developed by the Organization (MSC.1/Circ.1394/Rev.2).

Future work plan

With the finalization of its work on the RSE, MSC has completed its MASS-related output.

Having noted the industry's fast advancement with respect to developing MASS technology and conducting trials, some delegations supported the inclusion of a standing agenda item on MASS in MSC's agenda and the establishment of an intersessional working group to ensure a timely regulatory response to emerging MASS operations.

Given the complexity of the matter, an efficient and systematic approach with a timeline for future work was important for the development and adoption of MASS instruments. Such timeline or work plan could be developed when output proposals were received.

MSC 103 concluded that a focused approach was needed to progress the work on MASS and that a standing agenda item would not be an efficient way to address the complexity of MASS regulatory development.

MSC 103 agreed not to undertake any further work on MASS beyond the scope of the current output until it had approved a new output; and consequently invited interested Member States to submit proposals for new output(s) on MASS to a future session of the Committee.

MSC 103 noted the view of some delegations that the work on MASS could be progressed faster by establishing a joint LEG/MSC/FAL Working Group. It considered that it would be premature to do so at this point in time, recognizing that the other Committees had not yet completed the

regulatory scoping exercise for instruments under their purview, and that any future work on MASS undertaken by a joint working group would require the identification of common potential gaps and/or themes as well as priorities for future work from all Committees.

Item 6 - Development of further measures to enhance the safety of ships relating to the use of oil fuel

At MSC 100, the Committee agreed to include in its biennial agenda an output on "Development of further measures to enhance the safety of ships relating to the use of fuel oil", and also acknowledged that urgent actions were required to address the safety implications associated with the use of low-sulphur fuel oil, but that long-term solutions to enhance the safety of ships relating to the use of fuel oil were also needed.

Resolution MSC.465(101), adopted by MSC 101, invited Member States to inform the Organization, for transmission to Parties and Member States of the Organization, of confirmed cases where fuel oil suppliers had delivered fuel that jeopardized the safety of ships or personnel; or adversely affected the performance of the machinery.

The Correspondence Group on Development of Further Measures to Enhance the Safety of Ships Relating to the Use of Fuel Oil (the Group), which was established by MSC 101 reported its work to MSC 102. MSC 102 decided to postpone to MSC 103 the discussion.

Development of mandatory requirements regarding the reporting of confirmed cases where oil fuel suppliers have failed to meet the flashpoint requirements

MSC 103 has prepared the draft SOLAS amendments on the reporting of confirmed cases where oil fuel suppliers have failed to meet the flashpoint requirements of the organization

DRAFT AMENDMENTS TO SOLAS ON REPORTING OF CONFIRMED CASES WHERE OIL FUEL SUPPLIERS HAVE FAILED TO MEET THE FLASHPOINT REQUIREMENTS OF THE ORGANIZATION

"1 The Contracting Governments undertake to ensure that appropriate authorities designated by them inform the Organization for transmission to Contracting Governments and Member States of the Organization of all confirmed cases where oil fuel suppliers have failed to meet the requirements specified in SOLAS regulation II-2/4.2.1.

Development of mandatory requirements to ensure SOLAS Contracting Governments take action as appropriate against oil fuel suppliers in confirmed cases of deliveries of oil fuel that does not comply with the requirements specified in SOLAS regulation II-2/4.2.1, taking into account regulation 18.9.4 of MARPOL Annex VI

MSC 103 has prepared the draft SOLAS amendments on actions against oil fuel suppliers that have been found to deliver oil fuel that does not comply with minimum flashpoint requirements

DRAFT AMENDEMENTS TO SOLAS ON ACTION AGAINST SUPPLIERS IN CONFIRMED CASES OF DELIVERIES OF NON-COMPLIANT OIL FUEL

The Contracting Governments undertake to ensure that appropriate authorities designated by them take action as appropriate against oil fuel suppliers that have been found to deliver [oil fuel]/[fuel oil] that does not comply with SOLAS regulation II-2/4.2.1.

Draft regulations on the documentation of the flashpoint of the actual fuel batch when bunkering

A draft regulation has been circulated. A declaration signed and certified by the oil fuel supplier's representative that the oil fuel supplied is in conformity with regulation SOLAS II-2/4.2.1) may be included in the bunker delivery note according to MARPOL Annex VI/18 :

> "Ships carrying oil fuel, as defined in regulation 1 of Annex 1 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, shall be provided with a (bunker delivery note) prior to bunkering. This (bunker delivery note) shall contain at least the flashpoint of the fuel delivered to the ship, specified in accordance with standards acceptable to the Organization (ISO 8217:2017 and ISO 2719:2016, Determination of flash point – Pensky-Martens closed cup method)."

It must be recalled that the Correspondence Group established by MEPC 74 proposed to consider an amendment to appendix V of MARPOL Annex VI to include flashpoint as mandatory information in the BDN, as set out in paragraph 54 to document MEPC 75/5/1. In this context, MSC 103 noted that this proposal was pending to be considered by MEPC 76 and the outcomes may impact on the development of mandatory requirements regarding the documentation and sampling under the SOLAS regime.

It was agreed that a correspondence group could be tasked to continue the development, taking into account possible outcomes from MEPC 76,

Guidelines for ships to address situations where they have indicative test results suggesting that the oil fuel supplied may not comply with SOLAS regulation II-2/4.2.1

Provisions on measures that could affect the planned voyage of a ship should be considered carefully, taking into account the severe implications for the ship, crew and owner as well, as the actual risk emanating from the use of fuel with a flashpoint below 60°C in the specific case.

MSC 103 prepared the list of items to be addressed by the guidelines for ships to address situations where indicative test results suggest that the oil fuel supplied may not comply with SOLAS regulation II-2/4.2.1 :

- Fuel Handling
- Fuel properties
- Hazards
- Measures in case of indicative test results from the ship's own tests:
- Ullaging and sampling:
- Bunkering

Additional actions, including possible measures related to oil fuel parameters other than flashpoint

Having noted the deliberation of the Correspondence Group with regard to licensing schemes for bunker suppliers, MSC 103 invited Member States to consider the implementation of licensing schemes for bunker suppliers operating in their jurisdiction.

MSC 103 also noted statement from delegates that fuel oil safety was a matter of paramount importance and enhanced safety measures should be undertaken by Member States. Therefore, a more robust wording should be used in this context and the Committee should encourage, rather

than invite, Member States to consider the implementation of licensing schemes for bunker suppliers operating in their jurisdiction.

In parallel, having noted that currently there are no specific regulations in SOLAS on oil fuel parameters other than flashpoint, MSC agreed to task the Correspondence Group to collect information and consider possible measures related to such parameters. In this context, MSC noted that ISO was also collecting data and information in this regard and further collaboration between IMO and ISO could be explored at a future stage.

MSC 103 prepared a list of relevant information and references :

List of documents regarding fuel properties and the safety of ships:
1 .1 ISO 8217:2017 international marine fuel specification;
.2 ISO/PAS 23263: 2019 Considerations for fuel suppliers and users regarding marine fuel quality in view of the implementation of maximum 0.50% S in 2020;
.3 CIMAC Guidance documents "Marine fuel handling in connection to stability and compatibility" and "How to order and Manage conventional fuel in the market towards and beyond 2020";
.4 Joint Industry Guidance document "The Supply and use of 0.50% - sulphur marine fuel";
.5 MAN ES 0.50% S fuel operation 2020;
.6 CIMAC 2018 marine fuel incidents; and
.7 Incident reports in general, e.g. report on the incident of MS Bella (IMO 9208124).

ISO TC28/SC4/ WG6 – is responsible for the ISO 8217 international marine fuel specification. It regularly meets to monitor, address and respond to the issues pertaining to fuel quality, health, safety, environmental and operational aspects of the fuel as delivered to the ship. CIMAC WG 7 is a working group which goal is to prepare recommendations and make tools for the industry on how to operate on fuel, and choose fuels that will ensure safe operation of the diesel engines. WG7 supports the ISO 8217 fuel specification group providing technical and operational guidance in the efficient and safe handling and usage of marine oil fuels.

Action plan for measures to enhance the safety of ships relating to the use of oil fuel

MSC 103 has endorsed a draft action plan for the development of measures to enhance the safety of ships relating to the use of oil fuel (annex 1 of this report).

MSC 103 agreed to invite the Committee to extend the target completion year to 2023.

MSC 103 has established a Correspondence group on the development of further measures to enhance the safety of ships relating to the use of oil fuel.

Item 8 - Measures to improve domestic ferry safety

MSC 101 concurred with the recommended way forward in dealing with matters pertaining to domestic ferry safety :

.1 develop Model Regulations on Domestic Ferry Safety;
.2 provide guidance on the incorporation of Model Regulations on Domestic Ferry Safety in domestic law.

MSC 102 requested Secretariat to continue to develop further the basic structure of the draft model regulations in consultations with stakeholders and submit the expanded structure for consideration at MSC 103 with a view to adoption of the completed framework Model Regulations on Domestic Ferry Safety at MSC 104.

Model Regulations on Domestic Ferry Safety

MSC 103 approved, in principle, the basic structure of the framework Model Regulations on Domestic Ferry Safety (annex 2 of this report).

The Committee agreed to establish a Working Group on Domestic Ferry Safety at MSC 104 to further develop the model regulations.

Discussion on the Model regulation

IMO Secretariat recalled that model regulation are a framework to be locally adopted by maritime authorities. However some stakeholders have indicated the need for a Convention on Domestic Ferry Safety to strengthen international commitment to domestic ferry safety, developed on the basis of the Model regulation. But during discussion on this topic, there was no appetite to make this Model regulation mandatory in the future. A prescriptive rule will not allow the Administrations to develop their own standards based on their own country policies and best practices that will offer the same level of safety as international standards.

Item 9 - Measures to enhance maritime security

MSC 103 approved the dissemination of the fourth version of *The Guidelines on cyber security onboard ships.*

MSC 103 also requested the Secretariat to update the industry guidance listed in paragraph 4.2 of the Guidelines on maritime cyber risk management (MSC-FAL.1/Circ.3) to include the consolidated IACS Recommendation on cyber resilience (Recommendation 166) and issue MSC-FAL.1/Circ.3/Rev.1, subject to concurrent decision by the FAL Committee (1-7 June 2021).

Item 13 - Human element, training and watchkeeping

Draft interim guidelines on safe operation of onshore power supply (OPS) service in port for ships engaged on international voyages

MSC 103 recalled that HTW 7, having recognized that thorough and detailed consideration of the personnel, training and familiarization provisions was required before the approval of the draft interim guidelines on safe operation of onshore power supply (OPS) service in port for ships engaged on international voyages, had postponed the consideration of these provisions to HTW 8.

Having considered comments from IACS on the draft interim guidelines and proposals of several modifications, MSC 103 also referred the draft interim guidelines, together with the proposals from IACS, to SSE 8 for further consideration.

Item 15 - Ship design and construction

The Assembly, at its thirty-first session, had adopted resolution A.1137(31) on Interim safety measures for ships not certified under the SOLAS Convention operating in polar waters, urging Member States, on a voluntary basis, to implement the safety measures of the Polar Code, as far as practicable, for ships not certified under the SOLAS Convention operating in polar waters, including fishing vessels of 24 m in length and over and pleasure yachts of 300 gross tonnage and above not engaged in trade.

After having taken into account report on these issues from SDC 7, MSC 103 approved :

- MSC.1/ Circ. - Guidelines for fishing vessels of 24 m in length and over operating in polar waters ;
- MSC.1/ Circ. Guidelines for pleasure yachts of 300 gross tonnage and above not engaged in trade operating in polar waters.

Draft guidelines for fishing vessels of 24m in length and over operating in polar waters

Reference to the Cape Town Agreement

With respect to the draft Fishing Vessel Guidelines, alignment with the provisions of the 2012 Cape Town Agreement has been achieved without directly referencing provisions therein, taking into account the non-mandatory status of the draft guidelines.

Owing to the fact that the Cape Town Agreement was pending entry into force, therefore, SDC 7 agreed only to include a general reference in the "Preamble" section, i.e. "These Guidelines are designed to align with the pending Cape Town Agreement of 2012." No further direct reference to the Cape Town Agreement of 2012 in the draft guidelines was agreed.

Personal survival kit and group survival kit

SDC 7 prepared the modified lists of sample items for inclusion in a personal survival kit and group survival kit.

Draft guidelines for pleasure yachts of 300 GT and above not engaged in trade operating in polar waters

SDC 7 agreed to incorporate modified lists of sample items for inclusion in a personal survival kit and group survival kit. In addition, it agreed to add to these guidelines under section 4.1 provision to carry insulated immersion suits onboard.

Regarding communications and voyage planning, it has been agreed to use similar provisions than under the draft Guidelines for fishing vessels of 24 m.

Carriage of Industrial Personnel

Intersessional Working Group on Carriage of Industrial Personnel (IP), which met remotely from 8 to 12 March 2021, had finalized draft SOLAS chapter XV and the draft IP Code, including provisions for high-speed craft carrying no more than 60 industrial personnel and the Model Industrial Personnel Safety Certificate Form.

ISWG has agreed on grandfathering provisions for ships permitted to operate under the Interim recommendations (resolution MSC.418(97)).

It is expected that SDC 8 will conclude the work and submit the new draft SOLAS chapter XV and the draft IP Code to MSC 105 for approval with a view to subsequent adoption.

Item 16 - ship systems and equipments

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

Having agreed modifications suggested by IACS to align them with the Revised guidelines for the maintenance and inspection of fire protection systems and appliances (MSC.1/Circ.1432), MSC 103 approved MSC.1/Circ.1318/Rev.1 - Revised Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems.

Correction of references to standards for coated fabric material tests for inflatable liferafts in the Revised recommendation on testing of LSA (MSC.81(70))

MSC 99, in relation to a proposal for a new output on "Revision of the Standardized life-saving appliance evaluation and test report forms (MSC/Circ.980 and addenda)", considered the outdated references to the tests contained in the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)) needed to be updated. MSC requested the Secretariat to prepare a document regarding the proposal for making minor corrections to the references in the Revised Recommendation (resolution MSC.81(70)) for consideration at MSC 100. MSC 100 also requested the Secretariat to prepare a draft MSC resolution on the adoption of amendments to the Revised Recommendation, for consideration at MSC 101.

MSC 101 noted a view that the requirements in standards ISO/TR 6065 and ISO 15372:2000 were not considered to be identical, due to the fact that oil resistant requirements underwent substantive changes, i.e. test oil temperature had been increased from 20°C to 70°C in standard ISO 15372:2000. Noting that this change could have a substantive impact on the testing of fabrics, the Committee decided that the draft amendments should not be adopted at that session and referred the matter to SSE 7.

SSE 7 noted that the discrepancy between the temperature for the oil exposure tests in ISO/TR 6065 and ISO 15372:2000 was in the process of being corrected by ISO/TC 8 and, therefore, agreed not to take any action at that stage. ISO TC 8/SC 1 confirmed that the discrepancy between the temperature for the oil exposure tests in ISO/TR 6065 and ISO 15372:2000 was a typographical error.

Hence, MSC 103, having noted that ISO 15372:2000/Amd 1:2021 corrects the oil test temperature in ISO 15372:2000, approve the draft amendments to the Revised Recommendation as minor corections.

Item 21 – New outputs

Proposal for a new output to evaluate the adequacy of fire protection, detection and extinction arrangements on board containerships to fight container fires

MSC 103 agreed to include in the biennial agenda of the SSE Sub-Committee for 2022-2023 and the provisional agenda for SSE 8 an output on "Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of containerships", with a target completion year of 2025

Consideration should be given to the potential impact of the increasing containership sizes over the years. This necessitates a review of the fire protection, detection and extinction arrangements with regard to factors, such as sufficient coverage, capacity, remote operation and ergonomic arrangements. There is a need to evaluate the adequacy of fire protection, detection and extinction arrangements on board containerships to fight container fires. Based on the outcome of evaluation, there could be a need to amend SOLAS and the International Code for Fire Safety Systems Code (FSS Code), as required.

The intent would be to develop goal-based standards to ensure the readiness and effectiveness of such arrangements in mitigating container fires on board containerships.

The amendments to be developed should apply to new ships, and they should enter into force on 1 January 2028, provided that they were adopted before 1 July 2026.

Extension of the requirements for emergency towing arrangements in SOLAS regulation II-1/3-4 to all types of ships

MSC 103 agreed to include in the biennial agenda of the SDC Sub-Committee for 2022-2023 and the provisional agenda for SDC 8 an output on "Development of amendments to SOLAS regulation II-1/3-4 to apply requirements for emergency towing equipment for tankers to other types of ships", with a target completion year of 2023.

Since 1996, tankers over 20,000 tonnes deadweight are required to have an emergency towing device, both fore and aft, and a towing procedure. Moreover, other types of ships must have a towing procedure, using the recommendations provided in the Guidelines for owners/operators on preparing emergency towing procedures (MSC.1/Circ.1255), but are not subject to an equipment requirement.

Due to the increase in the size of all ships and the risks incurred in the event of a shipwreck, the general obligation to equip all new large ships with an emergency towing system should be discussed by IMO.

The amendments to be developed should apply to all types of new ships of [20,000] gross tonnage and above, whereby the tonnage threshold was left in square brackets for consideration by SDC.

They should enter into force on 1 January 2028, provided that they were adopted before 1 July 2026.

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

MSC 103 had for its consideration proposal to amend the 2011 ESP Code to address safety issues that were identified during the flag State's marine safety investigation of the loss of MV Stellar Daisy.

MSC 103 has instructed SDC to consider in detail proposed amendments to the 2011 ESP Code to address matters related to surveys of ballast tanks and void spaces, and advise the Committee.

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Due to time constraints, following items have been deferred to MSC 104 :

- Updating the Harmonized System of Survey and Certification (HSSC) Guidelines
- GBS

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Correspondence groups established by MSC 103

Correspondence group on the development of further measures to enhance the safety of ships relating to the use of oil fuel

The CG is instructed to:

- further develop, with a view towards finalization, draft SOLAS amendments regarding the reporting of confirmed cases where oil fuel suppliers have failed to meet the flashpoint requirements of the Organization, taking into account that feedback should also be provided to the supplier ;
- further develop, with a view towards finalization, the draft SOLAS amendments on actions against oil fuel suppliers that have been found to deliver oil fuel that does not comply with minimum flashpoint requirements;
- further develop, with a view towards finalization, the mandatory requirements regarding the documentation of the flashpoint of the actual fuel batch when bunkering;
- further develop the guidelines for ships to address situations where indicative test results suggest that the oil fuel supplied may not comply with SOLAS regulation II-2/4.2.1;
- collect information on and consider possible measures related to oil fuel parameters other than flashpoint;
- submit a written report to MSC 105.

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ANNEX 1

ACTION PLAN FOR MEASURES TO ENHANCE THE SAFETY OF SHIPS RELATING TO THE USE OF OIL FUEL

Timeline	Action
MSC 103 (2021)	Further consideration on measures related to flashpoint: development of mandatory requirements regarding the reporting of confirmed cases where fuel oil suppliers have failed to meet the flashpoint requirements to the Organization, taking into account that feedback should also be provided to the supplier; development of mandatory requirements to ensure parties take action as appropriate against fuel oil suppliers in confirmed cases of deliveries of fuel oil that does not comply with the requirements specified in SOLAS regulation II-2/4.2.1, taking into account regulation 18.9.4 of MARPOL Annex VI; development of mandatory requirements regarding the documentation of the flashpoint of the actual fuel batch when bunkering, providing a statement that the fuel oil delivered complies with regulation SOLAS II-2/4.2.1; and development of guidance for ships to address situations where they have indicative test results suggesting the fuel oil supplied may not comply with regulation SOLAS II-2/4.2.1. Collect information on possible measures related to fuel oil parameters other than flashpoint. Proposal to establish CG reporting to MSC 105 (MSC 104 is scheduled for October 2021).
MSC 105 (2022)	Finalization of measures related to flashpoint; Further consideration on the development of provisions to enhance safety of ships related to fuel oil quality, taking into account the latest edition of industry standards (e.g. ISO 8217:2017 and ISO/PAS 23263); Further consideration on the development of provisions to enhance safety of ships related to the stability of fuel oil, taking into account the latest edition of industry standards (e.g. ISO 8217:2017 and ISO/PAS 23263) and guidance; Further consideration on the development of provisions to enhance safety of ships related to the compatibility of fuel oil, taking into account the latest edition of industry standards (e.g. ISO 8217:2017 and ISO/PAS 23263) and guidance, also taking into account that operational aspects have influence on this parameter; Further consideration on the development of provisions to enhance safety of ships related to the cold flow properties of fuel oil, taking into account the latest edition of industry standards (e.g. ISO 8217:2017 and ISO/PAS 23263) and guidance;

ANNEX 2

BASIC STRUCTURE OF THE FRAMEWORK MODEL REGULATIONS ON DOMESTIC FERRY SAFETY

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