International Maritime Organization Update

Submitted by IHO Secretariat

SUMMARY

Executive Summary: This document provides details of relevant outcomes from the 99th and 100th sessions of the Maritime Safety Committee and the 6th session of the Navigation, Communications, and Search and Rescue Sub-Committee.

Action to be taken: 17

Related documents: IHO CL 34/2018 dated 11 June 2018, IHO Bulletin reports December 2018, IHO CL 13/2019 dated 4 March 2019

99th session of the Maritime Safety Committee (MSC 99)

1.   Maritime Autonomous Surface Ships

1.1   The MSC 99 commenced work to look into how safe, secure and environmentally sound Maritime Autonomous Surface Ships (MASS) operations may be addressed in IMO instruments. The Committee endorsed a framework for a regulatory scoping exercise, including preliminary definitions of MASS and degrees of autonomy, as well as a methodology for conducting the exercise and a plan of work.

2.   Adoption of amendments

2.1   The MSC adopted amendments to the following relevant instrument:

        Chapter IV of SOLAS, and the appendix to the annex to the 1974 SOLAS Convention.

2.2   The amendments to chapter IV of SOLAS, and the appendix to the annex to the 1974 SOLAS Convention, replaced all references to "Inmarsat" with references to a "recognized mobile satellite service" and consequential amendments were agreed to the International Code of Safety for High speed Craft, 1994 (1994 HSC Code), the International Code of Safety for High-speed Craft, 2000 (2000 HSC Code) and the Code of Safety for Special Purpose Ships, 2008 (2008 SPS Code). These amendments are expected to enter into force on 1 January 2020.

3.   Polar Code – second phase

3.1   The International Code for Ships Operating in Polar Waters (Polar Code) entered into force in January 2017 under both the SOLAS and MARPOL treaties. It provides additional requirements for ships trading in Arctic waters and the Antarctic area, on top of applicable SOLAS and MARPOL regulations.

3.2   The MSC considered how the safety measures of the Polar Code might be applied in the future to non-SOLAS vessels operating in polar waters and agreed that the development of such safety

measures should focus on fishing vessels, pleasure yachts above 300 gross tonnage not engaged in trade and cargo ships below 500 gross tonnage down to 300 gross tonnnage.

3.3   As a first step, the MSC instructed the Sub-Committee on Ship Design and Construction at its 6th session (SDC 6) to develop recommendatory safety measures for the following types of vessels when operating in polar waters: fishing vessels of 24 m in length and over, with a view to alignment with the 2012 Cape Town Agreement; and pleasure yachts above 300 gross tonnage not engaged in trade.

3.4   The Committee agreed to establish a working group at MSC 100 to further consider how to move forward with developing mandatory and/or recommendatory measures for ships operating in polar waters but not currently covered by the Polar Code; and the involvement of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) concerning communication and navigation requirements for such vessels.

3.5   Member States and interested international organizations were invited to submit proposals to the next session.

4.   New ships' routeing measures in Bering Sea adopted

4.1   The MSC adopted new and amended ships' routeing measures in the Bering Sea and Bering Strait, aimed at reducing the risks of incidents - the first measures adopted by IMO for the Arctic region where the Polar Code applies.

4.2   Also adopted were: a traffic separation scheme and other routeing measures 'In Dangan Channel' (China) and 'In the vicinity of Kattegat' (Denmark and Sweden); and an area to be avoided 'Off the coast of Ghana in the Atlantic Ocean' (Ghana).

5.   Piracy and maritime security

5.1   The MSC received an update on reported incidents of piracy and armed robbery against ships and stressed that the diligent application of IMO guidance and best management practices to counter piracy and armed robbery against ships worked and should be continued. The IMO received reports of 203 incidents of piracy and armed robbery against ships worldwide in 2017, the lowest for over 20 years, confirming the current downward year on year trend, with a reduction of about 8% at the global level.

5.2   With respect to piracy and armed robbery against ships in the waters off the coast of Somalia, the Committee further noted that Somalia based piracy had been suppressed, but not eradicated. In 2017 a total of six incidents were reported. At the time of the MSC 99, in 2018, there had been two reported incidents of attempted piracy (Leopard Sun on 22 February 2018 and Kriti Spirit on 31 March 2018).

5.3   In the Gulf of Guinea, the number of incidents reported to the IMO decreased in 2017 to 48 incidents recorded in the IMO GISIS database, against 62 in 2016. However, in the first four months of 2018, the number of incidents significantly increased in the region, with 37 incidents reported, some resulting in the hijacking of ships and holding of crew members for ransom. On a more positive note, the Committee noted that naval forces in the region were showing an increased appetite and capability to intervene in such incidents.

5.4   The MSC also noted that, in response to the threats and recent incidents arising from the conflict in Yemen, such as sea mines and waterborne improvised explosive devices, the Combined Maritime Forces (CMF), ICS, BIMCO and INTERTANKO had published interim guidance on maritime security in the southern Red Sea and Bab al-Mandeb.

5.5   The MSC stressed that Member States needed to continue to provide naval assets and flag States needed to continue to monitor the threat to ships flying their flag and set appropriate security levels, in accordance with the International Ship and Port Facility Security (ISPS) Code. The Committee also noted that the designation of high-risk areas was an industry developed guidance detailed in the industry-developed Best Management Practices (BMP4) and that the IMO did not have the authority to change the designation. The Committee encouraged interested States to engage with the organizations that develop that guidance.

6.   Adoption/approval of guidance and guidelines

6.1   The MSC 99 also:

Adopted *Performance standards for shipborne Indian Regional Navigation Satellite System (IRNSS) receiver equipment*;
Approved the updated *IMO e-navigation Strategy Implementation Plan* (SIP);
Approved *Interim guidelines for the harmonized display of navigation information received via communications equipment*;
Adopted amendments to the *Revised Performance standards for integrated navigation systems (INS)* (resolution MSC.252(83)) relating to the harmonization of bridge design and display of information; and
Reviewed and validated model course 3.24 on *Security Awareness Training for Port Facility Personnel with Designated Security Duties*.

100th session of the Maritime Safety Committee (MSC 100)

7.   The Maritime Safety Committee (MSC) completed its landmark 100th session, with progress in the regulatory scoping exercise on maritime autonomous surface ships; approval of revised guidelines on fatigue and further updates on work on goal-based standards, polar shipping and safety issues relating to low-sulphur fuel.

8.   A special session brought in invited speakers who discussed future technologies and the continued role of the seafarer. A new IMO safety video was launched, highlighting the wide spectrum of work the Committee has done over six decades to enhance safety and security at sea, including navigation, cargoes, ship construction, seafarer training, search and rescue and communications and more.

9.   Regulatory scoping exercise on Maritime Autonomous Surface Ships

9.1   The process of assessing IMO instruments to see how they may apply to ships with varying degrees of autonomy continued during the MSC 100. Following testing of the methodology by a correspondence group, the MSC approved the framework and methodology for the regulatory scoping exercise on Maritime Autonomous Surface Ships (MASS).

9.2   For each instrument related to maritime safety and security, and for each degree of autonomy, provisions will be identified which:

apply to MASS and prevent MASS operations; or
apply to MASS and do not prevent MASS operations and require no actions; or
apply to MASS and do not prevent MASS operations but may need to be amended or clarified, and/or may contain gaps; or
have no application to MASS operations.

9.3   The degrees of autonomy identified for the purpose of the scoping exercise are:

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; and

Degree four: Fully autonomous ship: The operating system of the ship is able to make decisions and determine actions by itself.

9.4   Once the first step of the scoping exercise is completed, a second step will be conducted to analyse and determine the most appropriate way of addressing MASS operations, taking into account human element, technology and operational factors. The analysis will identify the need for:

9.5   Equivalences as provided for by the instruments or developing interpretations; and/or
        Amending existing instruments; and/or
        Developing new instruments; or
        None of the above as a result of the analysis.

9.6   The initial review of instruments under the purview of the Maritime Safety Committee will be conducted during the first half of 2019 by a number of volunteering Member States, with the support of interested international organizations.

9.7   An intersessional MSC working group is expected to meet in September 2019 to move forward with the process with the aim of completing the regulatory scoping exercise in 2020.

9.8   The list of instruments to be covered in the MSC's scoping exercise for MASS includes those covering safety (SOLAS); collision regulations (COLREG); loading and stability (Load Lines); training of seafarers and fishers (STCW, STCW-F); search and rescue (SAR); tonnage measurement (Tonnage Convention); Safe Containers (CSC); and special trade passenger ship instruments (SPACE STP, STP).

10.   Development of guidelines on MASS trials

10.1   The MSC noted provisional principles for the development of guidelines on MASS trials. The principles include ensuring that such guidelines should be generic and goal-based, and taking a precautionary approach to ensuring the safe, secure and environmentally sound operation of MASS. Interested parties were invited to submit proposals to the next session of the Committee, taking into account these principles.

11.   Safety of ships in polar waters

11.1   The Committee discussed how to move forward with developing possible mandatory and/or recommendatory measures for ships operating in polar waters which are not currently covered by the Polar Code. A roadmap was agreed, which could see revisions to SOLAS and/or the Polar Code considered for adoption in 2022.

11.2   MSC 99 had already instructed the Sub-Committee on Ship Design and Construction (SDC) to consider recommendatory safety measures for fishing vessels of 24 m in length and over, with a view to alignment with the 2012 Cape Town Agreement; and pleasure yachts above 300 gross tonnage not engaged in trade (in both cases, for those operating in Polar waters). At MSC 100, the Committee

considered the wider application of Polar Code chapters 9 (Safety of navigation), 10 (Communication) and 11 (Voyage planning).

11.3   Preliminary draft text which would extend the application of the Polar Code to all ships to which SOLAS chapter V (Safety of navigation) applies was agreed, for further consideration. Member States and international organizations were invited to submit information to MSC 101 that will assist to determine the feasibility and consequences of applying the requirements in chapters 9 (safety of navigation) and 11 (voyage planning) of the Polar Code to non-SOLAS ships, in order to progress the work at the next session.

11.4   The Polar Code is mandatory for certain categories of ships under the SOLAS and MARPOL Conventions. SOLAS chapter V (safety of navigation) in principle applies to all ships on all voyages (with some specific exceptions) while the applicability of SOLAS chapter IV (radiocommunications) also extends to cargo ships of 300 gross tonnage and upwards, as opposed to the general SOLAS application to ships of 500 GT and above. SOLAS does not apply to some specific categories of ships, including cargo ships of less than 500 gross tonnage; pleasure yachts not engaged in trade; ships of war and fishing vessels (sometimes termed "non-SOLAS ships").

12.   Approval of draft amendments, guidance and guidelines

12.1   The MSC:

Approved new *Global Counter Piracy Guidance*, updated *Gulf of Guinea Guidance*, and version 5 of the *Best Management Practices* (BMP 5), and issued the suite of guidance as a new MSC circular on *Revised Industry Counter Piracy Guidance*.

6th session of the Navigation, Communications, and Search and Rescue Sub-Committee (NCSR 6)

13.   Polar communication and navigation equipment guidance

13.1   Draft guidance for navigation and communication equipment intended for use on ships operating in polar waters was finalized, for submission to the next session of Maritime Safety Committee (MSC 101) for approval. The guidance includes recommendations on temperature and mechanical shock testing, and on how to address ice accretion and battery performance in cold temperatures.

13.2   This is expected to be an important tool in support of the implementation of the mandatory Polar Code. IMO's Polar Code helps ensure that ships operating in the harsh Arctic and Antarctic areas take into account extremes of temperature and that critical equipment remains operational under those conditions.

14.   New ship routeing systems In Indonesia approved

14.1   The Sub-Committee approved the establishment of traffic separation schemes (TSSs) and associated routeing measures and of precautionary areas with recommended directions of traffic flow in the Sunda and Lombok Straits, Indonesia. The new ships' routeing measures are aimed at minimizing the risk of collision between ships and grounding. The proposed routeing measures will be forwarded to the MSC 101 in June 2019 for adoption and are expected to be implemented one year later.

14.2   The Sub-committee also agreed on a Procedure for the submission of documents containing proposals for the establishment of, or amendments to, ships' routeing systems or ship reporting systems, for approval by MSC 101.

15.   E-navigation further developed

15.1   The Sub-Committee continued its work on matters related to e-navigation. As shipping moves into the digital world, e-navigation is expected to provide digital information and infrastructure for the benefit of maritime safety, security and protection of the marine environment, reducing administrative burden and increasing the efficiency of maritime trade and transport. E-navigation is defined as "the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment".

15.2   An updated IMO e-navigation Strategy Implementation Plan (SIP) was approved by MSC 99 in May 2018 (MSC.1/Circ.1595).

15.3   The Sub-Committee:

•   Agreed a draft MSC circular on *Guidelines for the standardization of user interface design for navigation equipment*. The aim is to promote improved standardization of the user interface and information used by seafarers to monitor, manage and perform navigational tasks will enhance situation awareness and improve safety of navigation. The guidelines, including icons, apply to Integrated Navigation Systems (INS), Electronic Chart Display and Information Systems (ECDIS) and Radar equipment, and they may be applied to other electronic navigation equipment where applicable, improving standardization and usability.

•   Agreed draft amendments to the *Performance standards for the presentation of navigation-related information on shipborne navigational displays* (resolution MSC.191(79)), including implementation dates, for radar equipment, electronic chart display and information systems (ECDIS) and integrated navigation systems (INS). The implementation date of the revised standard should be 1 January 2024; and for all other navigational displays on the bridge of a ship 1 July 2025.

•   Finalized the draft SN.1/Circ.243/Rev.2 to update the *Guidelines for the presentation of navigational-related symbols, terms and abbreviations*, which provide guidance on the appropriate use of navigation-related symbols to achieve a harmonized and consistent presentation.

•   Agreed a draft MSC resolution on *Guidance on the definition and harmonization of the format and structure of Maritime Services in the context of e navigation*. The purpose of the guidance is to ensure that Maritime Services are implemented internationally in a standardized and harmonized format. All Maritime Services should be conformant with the International Hydrographic Organization (IHO) S-100 framework standard, which specifies the method for data modelling and developing product specifications.

•   Agreed a draft MSC circular on *Initial descriptions of maritime services in the context of e-navigation*. The circular includes what is intended to be the first draft of Maritime Service descriptions and is an initial contribution for the harmonization of their format and structure.

15.4   The Initial descriptions are expected to be periodically updated, taking into account developments and related work on harmonization.

15.5   Following a request by a number of delegations for a more active participation of IMO in the process of harmonization of maritime services, exercising its leading role, the Sub-Committee agreed that IMO should work in collaboration with Member States, and in partnership with other international organizations, in the further development and harmonization work related to the definition and structure of maritime services in the context of e-navigation (including vessel traffic services (VTS) information service, maritime safety information (MSI) services, vessel shore reporting, ice navigation, search and rescue, pilotage and tug services, telemedical assistance, meteorological and hydrographic information, etc.).

16.   Modernizing the GMDSS

16.1   The Sub-Committee continued ongoing work to modernize the Global Maritime Distress and Safety System (GMDSS). The mandatory GMDSS was adopted in 1988 to ensure full integration of maritime radio and satellite communications so that distress alerts can be generated from anywhere on the world's oceans. The modernization plan aims to update the provisions, including allowing for the incorporation of new satellite communication services.

16.2   The aim is to develop a set of draft amendments to chapters III and IV of the International Convention for the Safety of Life at Sea (SOLAS), for adoption in 2022 with entry into force in 2024. There will also be consequential amendments to other instruments, such as guidance and performance standards.

16.3   The Sub-Committee agreed, in principle, to draft amendments to SOLAS chapters III and IV, and continued its work on consequential amendments to other instruments. A correspondence group was established to continue the work intersessionally.

17.   Actions

17.1   The Commission is invited to:

a.   **encourage**, in general, that Hydrographic Offices maintain liaison with their national Maritime Administrations to ensure that their views and interests are acknowledged in their country's views on, and contribution to, the progress of outputs affecting the provision of hydrographic services and maritime safety information. This is particularly relevant for those agenda items covering aspects of the GMDSS and the display of navigational information on various bridge equipment, for which IHO Member States have a direct interest and expertise;
b.   **consider,** at their NCSR and Maritime Safety Committee (MSC) pre-meeting preparations and in general engagement with their national maritime administrations, when formulating national positions on relevant agenda items, that Hydrographic Offices take into account discussions in the applicable IHO subordinate bodies to ensure a consistent approach is maintained; and
c.   **note** the information provided and take action as appropriate.