

IMO SUB-COMMITTEE ON SHIP SYSTEMS AND EQUIPMENT, 9TH SESSION 27 February – 3 March 2023

The IMO Sub-Committee on Ship Safety, Systems and Equipment held its 9th Session, remotely, from Monday 27 February through Friday 3 March 2023 under the Chairmanship of Mr Umut Senturk (Turkey), assisted by Vice-Chair, Vice-Admiral C. Aliperta (Palau), both of whom were re-elected for 2023. The meeting was attended by representatives from Member States, Associate Members, Intergovernmental organisations and Non-Governmental organisations.

Two Working Groups (WG), two Drafting Groups (DG), and one Expert Group (EG) were formed and chaired as follows:

WG 1 Life-Saving Appliances (LSA), Mr G. Grills (United States).

WG 2 Fire Protection (FP), Mr A. Tosseviken (Norway).

DG 1 Model Courses, Mr V. Mohla (GlobalMET).

DG 2 Onshore Power Supply, Mr H. Eguro (Japan).

EG 1 Code of Safety Revision for Diving Systems, Mr C. Chrysovitsanos (Bahamas).

ADDRESS BY THE IMO SECRETARY-GENERAL. Mr Kitack Lim welcomed delegates to the ninth session of the SSE Sub-Committee, marking one year since the beginning of the military conflict in Ukraine; he expressed his deepest condolences to victims of the conflict and hoped that the situation can be resolved peacefully as soon as possible. He remained deeply concerned about the seafarers (and ships), stranded in Black Sea Ukrainian ports and the Sea of Azov since 24 February 2022, during which time the IMO has provided extensive support towards the Black Sea Grain Initiative. He spoke of the IMO also actively pursuing a number of initiatives to help facilitate the safe departure of the remaining ships and seafarers.

The Secretary-General extended sincere condolences to Turkiye and the Syrian Arab Republic in respect of the recent earthquake that happened on 6 February 2023, resulting in the loss of so many lives and causing severe damage to infrastructure, whilst also commending the actions of those involved in the search and rescue operations. He announced the launch of an Appeal for Funds on behalf of the IMO family and a mechanism to facilitate donations in order to fund support efforts providing experts, emergency relief, food, medical supplies and other life-saving items.

With great sadness, Mr Lim announced the passing of Mrs. Mandana Mansoorian, who represented the Islamic Republic of Iran at IMO since 2015. He paid glowing tributes to the contribution Mandana made to the work of IMO, before honouring her with a minute of silence.

Turning to the agenda for the meeting, he reminded delegates that this year's World Maritime theme is "MARPOL at 50 – our commitment goes on", highlighting the importance of the MARPOL treaty now and into the future. Only safe ships with suitable systems and equipment, including life-saving appliances and fire-fighting equipment, can deliver the desired level of compliance with MARPOL; the SSE Sub-Committee has a major role to play in terms of achieving safety and, therefore, environmental protection.

He expressed hope that the review of SOLAS chapter II-2 and associated codes to minimise the incidence and consequences of fires on board ro-ro passenger ship fires will be finalised at this session so that the relevant amendments can enter into force in a timely manner.

The Secretary-General closed his address by wishing delegates a productive session.

NEW REQUIREMENTS FOR VENTILATION OF SURVIVAL CRAFT.

The Sub-Committee recalled that SSE 8 had agreed to re-establish the Correspondence Group on Life-Saving Appliances and to task the Group with preparing consequential amendments to the Revised standardised life-saving appliance evaluation and test report forms (survival craft) (MSC.1/Circ.1630). It was also recalled that MSC 106 had considered the draft amendments to the LSA Code and had approved the draft amendments to the Code for totally enclosed lifeboats as a matter of priority, with a view to adoption at MSC 107, entering into force on 1 January 2026. The Sub-Committee also, in line with the approval of draft amendments to the LSA Code concerning new ventilation requirements, approved the associated draft amendments to the Revised recommendation for totally enclosed lifeboats, in principle, with a view to adoption at MSC 107, in conjunction with the adoption of the associated LSA Code amendments. Finally, it was agreed to keep the item on the agenda of the Sub-Committee for this session to consider any compelling need for ventilation requirements for partially enclosed lifeboats and liferafts, for inclusion in both the LSA Code and resolution MSC.81(70).

Compelling need for ventilation requirements for partially enclosed lifeboats and liferafts. The compelling need for ventilation requirements were considered, accompanied by four submissions, following which a number of conflicting views were aired, some supporting the compelling need whilst others did not. In view of the split, the Sub-Committee decided to keep the item on the provisional agenda of SSE 10 for further discussion, and deferred consideration of the specific proposals in documents SSE 9/3/3, SSE 9/3/5 and the relevant part of SSE 9/3/6 to the next session, together with any other relevant submissions to be made.

Report of the Correspondence Group. The Sub-Committee considered document SSE 9/3, containing the report of the LSA Correspondence Group relevant to this agenda item, providing draft consequential amendments to circular MSC.1/Circ.1630/Rev.1 for new ventilation requirements for survival craft. Having approved the amendments for

totally enclosed lifeboats only, the LSA Working Group was instructed to finalise the draft amendments to the circular accordingly, based on annex 1 to document SSE 9/3, together with the associated draft MSC circular, with a view to approval by MSC 107.

Amendments to resolution MSC.402(96) for new ventilation requirements. Regarding consequential amendments to *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats* (resolution MSC.402(96)) emanating from the new ventilation requirements, the Sub-Committee considered document SSE 9/3/7, proposing to revise the resolution, in order to add examination of the ventilation systems fitted according to the new ventilation requirements for lifeboats, in the items for annual thorough examination and operational testing of lifeboats.

Following discussion, the Sub-Committee agreed to the draft amendments to resolution MSC.402(96), in principle, and instructed the LSA Correspondence Group to consider the draft amendments to the resolution in document SSE 9/3/7.

Establishment of the LSA Working Group (WG 1). WG 1 was duly established and issued with appropriate terms of reference (ToRs).

Report of the LSA Working Group. Having considered the relevant part of WG 1's report, the Sub-Committee:

- agreed to the draft test requirements for rigid, inflated and rigid/inflated FRBs in paragraphs 7.4.1, 7.5 and 7.6 of resolution MSC.81(70), with a view to adoption by MSC 107, in conjunction with the draft amendments approved for ventilation requirements for survival craft, as approved in principle by MSC 106;
- agreed to the draft amendments to the Revised standardised life-saving appliance evaluation and test report forms (survival craft) (MSC.1/Circ.1630/Rev.1), with a view to approval by MSC 107 in conjunction with the adoption of draft amendments to the LSA Code on ventilation requirements for totally enclosed lifeboats; and,
- agreed draft revised paragraph 6.2.3 to resolution MSC.402(96), emanating from new ventilation requirements, bearing in mind that further amendments to resolution MSC.402(96) would be considered by plenary at this session.

DEVELOPMENT OF AMENDMENTS TO THE LSA CODE TO REVISE THE LOWERING SPEED OF SURVIVAL CRAFT AND RESCUE BOATS FOR CARGO SHIPS.

Background. It was recalled that SSE 8 had considered document SSE 8/16 (Japan), proposing to include the output on "Development of amendments to the LSA Code to revise the lowering speed of survival craft and rescue boats for cargo ships" in this session's provisional agenda, together with draft amendments, and agreed to do so. There followed a discussion on Minimum and Maximum lowering speed which resulted in a decision to seek the Committee's approval of the expansion of the output's scope, following which the LSA Working Group was instructed to finalise the draft amendments to the LSA Code with respect to maximum lowering speed of survival craft and rescue boats, based on the annex to document SSE 9/4 and taking into account document SSE 9/INF.5.

Report by WG 1 on this item. The Sub-Committee:

- agreed to the draft amendments to the LSA Code for revised paragraphs 6.1.2.8 and 6.1.2.10, together with the associated draft MSC resolution, with a view to approval by MSC 107 and subsequent adoption by MSC 108; and,
- agreed to expand the application of such amendments to chapter VI of the LSA Code for revised paragraphs 6.1.2.8 and 6.1.2.10 to passenger ships so that the maximum lowering speed would also apply, noting that the Group had prepared the draft amendments in order to apply for both cargo and passenger ships.

REVISION OF SOLAS CHAPTER III AND THE LSA CODE.

Background. The Sub-Committee recalled that it had agreed to an intersessional working group (held in Hamburg , 24 – 28 October 2022) and instructed the group to submit a report to this session. It also tasked the Correspondence Group on Life Saving Appliances, having furnished it also with suitable ToRs.

Report of the Correspondence Group. The Sub-Committee considered the relevant part of the report of the Correspondence Group on Life-Saving Appliances in document SSE 9/3 related to this agenda item. In this respect, having approved it in general, the Sub-Committee endorsed the categorisation of documents provided by the Group in accordance with the criteria agreed at SSE 8. The co-sponsors of documents SSE 8/5 and SSE 8/5/1 were invited to submit proposals for a relevant new output and, having noted that document SSE 7/5 was categorised as urgent, and was related to document SSE 9/17, agreed to further consider the matter under agenda item 17 i.e. the Biennial status report and provisional agenda for SSE 10.

Report of the Intersessional Working Group and Group of Interested Parties. In relation to the progress made intersessionally on hazard identification work, the Sub-Committee had two documents for consideration: SSE 9/5, the report of the Intersessional Working Group on the Revision of SOLAS Chapter III and the LSA Code; and, SSE 9/5/1, the report of the Group of Interested Parties on the Revision of SOLAS Chapter III and the LSA Code, which further developed the outcome of the Intersessional Working Group in document SSE 9/5.

Following consideration, the Sub-Committee:

- noted the Group's discussion on risk indexing and scoring, also, that the Group had finalised the draft risk indexing and scoring, based on appendix 4 to the Revised FSA Guidelines, with minor editorial modifications to the severity index table for addressing perceived ambiguities; and,
- endorsed the editorial modifications proposed by the Group, with a view to taking them into account in the next revision of the Revised FSA Guidelines;

- noted the discussion on hazard identification and that the Group had further progressed the draft hazard identification matrix, with a view to further developing it at this session;
- noted the Group's agreement that the hazard identification should be conducted based on so called "unregulated ship condition", i.e. by neglecting the ship's existing means for survival that would normally be operational;
- instructed the LSA Working Group to further develop the draft hazard identification matrix at SSE 9, based on annex 3 to document SSE 9/5 and taking into account document SSE 9/5/1, time permitting;
- invited interested Member States and international organisations to submit specific casualty data relating to recovery post-abandonment, including survival time in water; and,
- Expressed appreciation for contributions by the Federal Ministry for Digital and Transport of Germany for hosting and coordinating the Intersessional Working Group meeting, and the German Maritime Centre for its hospitality in providing the required facilities.

Technical submission. The Sub-Committee considered document SSE 9/5/2 (China), providing modifications to SOLAS regulation III/13 about the stowage of lifeboats onboard. Following discussion, it was agreed that, since the proposal by China pointed out a safety gap, the contents and category of document SSE 9/5/2 should be analysed by the LSA Working Group, based on the categorisation agreed by SSE 8.

Report of the LSA Working Group (WG 1). Having considered the relevant part of the report submitted by the LSA Working Group dealing with this agenda item, the Sub-Committee took actions as follows:

- noted the Group's view that the output on the revision of SOLAS chapter III and the LSA Code should be based on submissions that fall within the scope of the approved Action Plan agreed at SSE 7;
- noted that, owing to time constraints, the Group did not embark on the work of hazard identification;
- agreed to re-establish the intersessional Working Group on the Revision of SOLAS chapter III and the LSA Code, to meet in person at a location to be confirmed, in conjunction with subsequent virtual meetings to close issues on outstanding matters, as necessary; and,
- agreed to the terms of reference for the intersessional Working Group.

REVIEW OF SOLAS CHAPTER II-2 AND ASSOCIATED CODES TO MINIMISE THE INCIDENCE AND CONSEQUENCES OF FIRES ON RO-RO SPACES AND SPECIAL CATEGORY SPACES OF NEW AND EXISTING RO-RO PASSENGER SHIPS.

Background. The Sub-Committee recalled that SSE 8:

- further developed the draft amendments to SOLAS chapter II-2 and the FSS Code for new and existing ro-ro passenger ships;

- discussed principal fire protection measures, such as fixed water-based fire-extinguishing systems protecting weather decks, openings in ro-ro spaces provided with closing devices, video recording for existing ships, and safety distance from accommodation and openings of ro-ro spaces and weather ro-ro deck;
- agreed that the implementation date for the draft amendments should be 1 January 2026 for new ships and 1 January 2028 for existing ships, provided that the amendments are adopted before 1 July 2024; and,
- re-established the Correspondence Group on Fire Protection to further progress the work intersessionally, and instructed the Group to submit a report to this session.

Report of the Correspondence Group. The Sub-Committee considered the relevant part of the Correspondence Group Report on Fire Protection in document SSE 9/6 related to this item, including the various options provided in the document for the draft amendments; it also considered document SSE 9/6/1 (Japan), providing comments on the report with regard to the draft amendments to SOLAS chapter II-2 and chapter 9 of the FSS Code.

Having approved the relevant part of the report of the Correspondence Group in general, the Sub-Committee held a lengthy discussion on the following topics:

- Arrangement of openings for new ro-ro passenger ships;
- Arrangement of weather decks for new ro-ro passenger ships;
- Fixed water-based fire extinguishing systems for existing ro-ro passenger ships;
- Consistent wording in regulations II-2/7.5.2 and 23.6;
- Linear heat detection systems in SOLAS and the FSS Code; and,
- Draft amendments to MSC.1/Circ.1430/Rev.2.

Following consideration, and taking into account the majority of views on some of the above items, the Sub-Committee agreed to establish the Working Group on Fire Protection and instructed the Group to finalise the draft amendments to SOLAS chapter II-2, the FSS Code and MSC.1/Circ.1430/Rev.2 accordingly.

Establishment of the FP Working Group (WG 2). Following the work of the Group, the Sub-Committee considered the relevant part of WG 2's report in dealing with this agenda item and took action as follows:

- agreed draft amendments to SOLAS chapter II-2 concerning fire safety on ro-ro passenger ships, together with the associated draft MSC resolution and check/monitoring sheet and the record format, for submission to MSC 107 for approval and subsequent adoption;
- agreed draft amendments to the FSS Code, for submission to MSC 107 for approval and subsequent adoption; and,
- agreed draft amendments to the Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces, and the associated draft MSC circular, with a view to approval by MSC 107.

DEVELOPMENT OF AMENDMENTS TO THE LSA CODE FOR THERMAL PERFORMANCE OF IMMERSION SUITS.

The Sub-Committee recalled that SSE 8 had considered document SSE 8/16/1 (Canada), proposing to include the output on "Development of amendments to the LSA Code for thermal performance of immersion suits" for this session, providing the justification for further discussion; and had agreed accordingly to include this item in the provisional agenda for this session.

Compressed air system when testing immersion suits and use of thermal manikins.

With regard to testing immersion suits, separate documents were submitted by four Member States for consideration. During discussion, the following views were expressed:

- given that there is such a variety of options in the submitted documents, technical detailed consideration should be given by the LSA Working Group;
- more research is needed to understand the impact of the mechanical water stirring system and its associated safety risks on human test subjects, since the LSA Code does not distinguish between human test subjects and manikins; and,
- the ongoing revision of ISO 15027 should be completed before agreeing on a way forward to reference the standard in the LSA Code and the Revised recommendation (MSC.81(70)), in order not to duplicate the work between ISO and IMO.

Low-temperature tolerance time threshold. Noting the need for further technical deliberations, the Sub-Committee instructed the LSA Working Group to further consider the draft amendments to resolution MSC.81(70), based on document SSE 9/7/1, on the low-temperature tolerance time threshold.

Report of the LSA Working Group (WG 1). Having considered the relevant part of the report of the LSA Working Group dealing with this agenda item, the Sub-Committee took actions as follows:

- agreed the draft amendment to paragraph 3.2.3 concerning thermal protective tests of resolution MSC.81(70), including the associated draft MSC resolution, with a view to adoption by MSC 107; and,
- agreed to the consequential draft amendments to the *Revised standardised life-saving appliance evaluation and test report forms (personal life-saving appliances)* (MSC.1/Circ.1628), if the draft amendments above are agreed.

DEVELOPMENT OF AMENDMENTS TO THE LSA CODE AND RESOLUTION MSC.81(70) TO ADDRESS THE IN-WATER PERFORMANCE OF SOLAS LIFEJACKETS.

Background. The Sub-Committee recalled that SSE 8 had:

- discussed requirements on marking, righting tests, spray hood with respect to lifejackets' in-water performance, also relevant draft amendments to the LSA Code and the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70));
- agreed to postpone consideration of the draft guidance on the in-water performance of lifejackets and considerations for selection of a lifejacket to a future session while the draft amendments to the LSA Code and the Revised Recommendation progressed, since the amendments could have consequential impacts on the draft guidance;
- agreed to consider consequential draft amendments to the Revised standardised life-saving appliance evaluation and test report forms (personal life-saving appliances) (MSC.1/Circ.1628) at a later stage when the draft amendments have been finalised; and,
- noted that the LSA Working Group had been unable to discuss this agenda item and would be referring the matter to the LSA Correspondence Group.

Report of the Correspondence Group and commenting documents. The Sub-Committee considered:

- document SSE 9/3, containing the report of the LSA Correspondence Group relevant to this agenda item;
- SSE 9/8/1 (China), providing comments on documents SSE 9/3 and MSC 101/21/6, and seeking further clarification on "no turn", minimum buoyancy of 150 Newtons and retention devices; and,
- SSE 9/8/2 (United States), commenting on the report of the LSA Correspondence Group (SSE 9/3), specifically pertaining to the proposed amendments regarding righting test requirements.

Following discussion, the Sub-Committee agreed to instruct the LSA Working Group to further consider the draft amendments to the LSA Code and resolution MSC.81(70) in annexes 2 and 3 of document SSE 9/3, respectively, and take into account, documents SSE 9/8/1 and SSE 9/8/2.

New righting test procedure for lifejackets using buoyancy materials. Following discussion, the Sub-Committee invited interested Member States and international organizations to conduct righting tests in accordance with the draft new righting test procedure for lifejackets using buoyancy materials set out in the annex to document SSE 9/8, as a trial, to evaluate the draft new test procedure; and to report back to the Sub-Committee for further consideration.

Draft guidance on lifejackets and consequential amendments to MSC.1/Circ.1628. Noting the progress made in respect of this agenda item, the Sub-Committee tasked the LSA Working Group to consider the draft guidance and consequential amendments to MSC.1/Circ.1628, subject to the completion of the draft amendments to the LSA Code and resolution MSC.81(70).

Report of the Working Group. Having considered the relevant part of WG 1's report pertaining to this item, the Sub-Committee:

- agreed the draft amendments to resolution MSC.81(70) with respect to lifejackets' in-water performance including the draft MSC resolution, with a view to adoption by MSC 107;
- agreed the draft amendments to chapter II of the LSA Code with a view to approval by MSC 107 and subsequent adoption by MSC 108;
- agreed the draft amendments to the Revised standardised life-saving appliance evaluation and test report forms (personal life-saving appliances) (MSC.1/Circ.1628), with a view to approval by MSC 108 in conjunction with the amendments to the LSA Code related to lifejackets' in-water performance;
- noted that the Group did not develop an MSC circular on guidance concerning in-water performance, based on annex 1 to document MSC 101/21/6, owing to a lack of information on the benefits, and which listed concerns only without concrete recommended actions; and,
- agreed to place output 7.39 on "Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets" on the Committee's post-biennial agenda, noting that the Group completed the draft amendments to resolution MSC.81(70) on in-water performance of lifejackets but that testing requirements, which are currently being developed, may need to be incorporated in the future.

REVISION OF THE PROVISIONS FOR HELICOPTER FACILITIES IN SOLAS AND THE MODU CODE.

Owing to time constraints, the Sub-Committee agreed to defer consideration of this agenda item to the next session.

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.

Technical Proposals. The Sub-Committee had two documents for its consideration, SSE 9/10 (Qatar et al.), proposing a fixed water monitor as an alternative means for a mobile water monitor to improve the fire-fighting capability on the cargo deck area of containerships; and SSE 9/10/1 (Republic of Korea), proposing a video fire detection system as an alternative means for a fire detection system to improve the detection capability of fires on deck cargo areas of containerships.

Following a brief discussion and having noted that the proposals would be better addressed together with the outcome of the expected meeting of the FSA Experts Group that would review the report of the CARGOSAFE FSA study, the Sub-Committee agreed to postpone consideration of the proposals in documents SSE 9/10 and SSE 9/10/1 to the next session with a view to taking an holistic approach on this output.

DEVELOPMENT OF AMENDMENTS TO SOLAS CHAPTER II-2 AND MSC.1/CIRC.1456 ADDRESSING FIRE PROTECTION OF CONTROL STATIONS ON CARGO SHIPS.

Background. The Sub-Committee recalled that SSE 8 had considered draft amendments to SOLAS chapter II-2 and Unified interpretations of SOLAS chapter II-2 and the FSS and FTP Codes (MSC.1/Circ.1456) addressing fire protection of control stations on cargo ships through the Working Group on Fire Protection established at the last session. SSE 8 also noted that the Group had supported, in general, requiring fire detection for control stations but could not agree if this was necessary for CO₂ rooms and similar spaces and had not been able to discuss the matter owing to time constraints, referring the matter to the FP Correspondence Group. The Sub-Committee considered the relevant part of the CG's report on Fire Protection in document SSE 9/6 related to this agenda item and approved it in general.

The FP Working Group (WG 2) was instructed accordingly and having considered the relevant part of WP 2's report, the Sub-Committee:

- agreed the draft amendments to SOLAS regulation II-2/7.5.5, together with the associated draft MSC resolution and check/monitoring sheet and the record format, for submission to MSC 107 for approval and subsequent adoption; and,
- agreed the draft amendments to SOLAS regulation II-2/7.5.5, together with the associated draft MSC resolution and check/monitoring sheet and the record format, for submission to MSC 107 for approval and subsequent adoption.

REVISION OF THE CODE OF SAFETY FOR DIVING SYSTEMS (RESOLUTION A.831(19)) AND THE GUIDELINES AND SPECIFICATIONS FOR HYPERBARIC EVACUATION SYSTEMS (RESOLUTION A.692(17)).

The Sub-Committee recalled that SSE 8 had progressed work on the revision of the 1995 Code of Safety for Diving Systems, which was intended to replace the Code of Safety for Diving systems (resolution A.831(19)) and the Guidelines and specifications for Hyperbaric Evacuation Systems (resolution A.692(17)). The Sub-Committee also recalled that SSE 8 had re-established the Correspondence Group on the Revision of the 1995 Code of Safety for Diving Systems to further progress the work intersessionally, and had instructed the Group to submit a report to this session. The Sub-Committee further recalled that MSC 106 had authorised SSE 9 to establish an experts' group to progress the work on safety for diving systems.

Report of the Correspondence Group. The Sub-Committee considered document SSE 9/12, containing the report of the Correspondence Group on the Revision of the 1995 Code of Safety for Diving Systems and, having approved it in general, noted that the Group had made good progress in developing the draft international code of safety for diving operations (draft revised diving code), whilst recognising that there is still work to be done before finalisation of the draft revised code.

Establishment of the Experts Group. Taking into account the comments made and decisions taken, in plenary, plus appropriate terms of reference, the Experts Group got down to work.

Report of the Experts Group (EG). The Sub-Committee approved the EG report in general, and in particular:

- noted that the work undertaken to develop a new Code in lieu of reviewing the existing 1995 Diving Code could be considered beyond the original scope given by the Committee;
- approved the draft MSC resolution on "International Code of Safety for Diving Operations, 2023 (2023 Diving Code)", with a view to adoption by MSC 107;
- authorised the Secretariat to effect editorial improvements, if necessary, as might be identified before presenting the text to the Committee;
- invited the Committee to recommend that the Assembly take appropriate action to reinstate the revoked resolutions A.536(13) and A.583(14), since in the view of the Group, deleting operative paragraph 4 of resolution A.831(19) was considered to be an error;
- noted that the draft Guidance on implementation of the Code of safety for diving operations had been included in the draft 2023 Code as an appendix;
- invited interested Member States to consider submission of a new output proposal to the Committee on coordination of SAR resources for diving units; and,
- noted the Group's discussion on the IAMSAR Manual.

VALIDATED MODEL TRAINING COURSES.

The Sub-Committee recalled that SSE 7 had discussed the need for revising model courses under the purview of the Sub-Committee and the applicable procedures for doing so, and had agreed that all model courses should be revised in due course, with priority being given to the revision of Model Course 3.03 on Survey of Machinery Installations.

Draft revised Model Course 3.03. The Sub-Committee considered document SSE 9/13 (Secretariat), containing the report of the Review Group relating to draft revised Model Course 3.03 on Survey of Machinery Installations. In this regard, the Sub-Committee noted that the draft revised Model Course 3.03 had been developed by Ms. Banerjee (IACS) and reviewed by Mr. Mohla (GlobalMET), and expressed its appreciation for their hard work. Having agreed to the draft revision in principle, the Sub-Committee agreed to establish the Drafting Group on Model Courses and instruct it to finalise the draft revised Model Course 3.03 and the associated compendium, based on document SSE 9/13, with a view to validation.

Next revision work for the other model courses under the purview of the Sub-Committee. The Sub-Committee tasked the Drafting Group to consider which of the model courses under the purview of the Sub-Committee should be revised next, and to

prepare the draft terms of reference of the next review group accordingly, based on the progress made by the Group whilst finalising work on Model Course 3.03.

Establishment of the Drafting Group on Model Courses. Following work by the Drafting Group, the Sub-Committee considered its report, approving it in general, and in particular:

- endorsed the decisions taken by the Group and validated draft revised Model Course 3.03 and the associated compendium; and,
- endorsed the Group's decision that the next model course under the purview of the Sub-Committee to be revised should be Model Course 3.04 (Survey of electrical installations) and agreed the accompanying draft terms of reference prepared by the Group.

UNIFIED INTERPRETATION (UI) OF PROVISIONS OF IMO SAFETY, SECURITY, AND ENVIRONMENT-RELATED CONVENTIONS.

Background. The Sub-Committee recalled that this was a continuous item on the Sub-Committee's biennial agenda and that the Assembly, at its twenty-eighth session (A 28), had expanded the output to include all proposed unified interpretations to provisions of IMO safety, security, and environment-related conventions, so that any newly developed or updated draft unified interpretations could be submitted for consideration by the Sub-Committee. Owing to time constraints, SSE 8 had postponed consideration of 13 documents related to UIs. The Sub-Committee further recalled that SSE 8 had deferred consideration of documents SSE 8/15/5 (IACS) and SEE 8/15/14 (ILAMA), submitted under this agenda item, on the implementation of the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear (resolution MSC.402(96)), taking into account the expected input from the Committee. In this respect, the Sub-Committee agreed to consider these documents under agenda item 19 (Any other business) for the integrity of the discussion on the revision of resolution MSC.402(96).

LSA RELATED DOCUMENTS.

LED torches in survival craft. A unified interpretation of paragraphs 4.1.5.1.13, 4.4.8.16 and 5.1.2.2.7 of the LSA Code; paragraph 3.8.10 of annex 10 of the 1994 HSC Code; and paragraph 3.8.10 of annex 11 of the 2000 HSC Code, in order to reflect current technology and clarify the use of light emitting diode (LED) torches, was agreed;

Lifeboat exterior colour. The Sub-Committee considered document SSE 8/15/12 (United States), proposing a revision to the Unified interpretation of paragraph 1.2.2.6 of the LSA Code concerning lifeboat exterior colour (MSC.1/Circ.1423), the extent to which the lifeboat exterior must be of a highly visible colour. Following discussion, the Sub-Committee invited the United States and other interested Member States and international organisations to submit proposals for a relevant new output in accordance with the Committees' method of work (MSC-MEPC.1/Circ.5/Rev.4).

Launching of rescue boats on a cargo ship. Three documents were submitted on this item during which the Sub-Committee considered whether paragraphs 6.1.1.3 (manual hoisting), 6.1.2.2 (actuation from the ship's deck and within the rescue boat) and 6.1.2.6 (hand gear for recovery) of the LSA Code need unified interpretations, and if so, whether the draft UIs in documents SSE 9/14/3 or SSE 9/14/7 were acceptable. Having agreed in principle with the proposal to establish a unified interpretation on the requirement for manual hoisting of a dedicated rescue boat in the LSA Code, and noting that further consideration was necessary intersessionally, the Sub-Committee reestablished the LSA Correspondence Group and instructed it to consider documents SSE 8/15/2, SSE 9/14/3 and SSE 9/14/7, with a view to finalisation of a relevant unified interpretation at SSE 10.

FP RELATED DOCUMENTS.

Performance-based standard used to classify portable fire extinguishers. The Sub-Committee considered document SSE 8/15/11 (United States), proposing a draft unified interpretation of paragraph 4.3.1.1.1 of the FSS Code on the capacity of portable fire extinguishers. In the ensuing discussion, views were expressed that referencing available international standards rather than "Standard for Rating and Testing of Fire Extinguishers (UL 711)" would be more appropriate for a unified implementation. Also, performance based standards should be considered under a relevant new output, as it might be necessary to amend the FSS Code. In view of this, the Sub-Committee invited the United States and other interested Member States and international organisations to submit proposals for a relevant new output, given that the proposals would require amendments to a mandatory instrument.

Means of escape from the steering gear space on cargo ships. The Sub-Committee considered document SSE 8/15/1 (IACS), responding to the outcome of SSE 6 relating to the means of escape from the steering gear space in cargo ships according to SOLAS regulation II-2/13.4.2 and offering an updated draft interpretation. In the ensuing discussion, the Sub-Committee noted a particular view disagreeing on the applicability of the dispensation regardless of the ship's size proposed and agreed in principle with paragraphs 1 and 2 of the draft UI (SSE 8/15/1, annex), whilst noting that further discussion would be necessary intersessionally, with a view to finalisation. Following discussion, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider paragraphs 1 and 2 of the draft UI (SSE 8/15/1, annex) on the means of escape from the steering gear space in cargo ships, with a view to finalisation.

Cargo/vapour piping and related gas-freeing piping/ducts on tankers. The Sub-Committee considered document SSE 8/15/9 (IACS), proposing a draft UI of SOLAS regulation II-2/4.5.6.1 and paragraphs 3.1.2, 3.1.4 and 3.5.3 of the IBC Code, which was developed based on IACS's general practice presented in document SSE 7/2/2 (IACS). Having agreed in principle with the proposal and noting that further discussion would be necessary intersessionally on some parts of the draft UI and its effective date, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider document SSE 8/15/9, with a view to finalisation.

Testing requirements for the floor covering materials. The Sub-Committee considered document SSE 8/15/13 (IACS), proposing to revise *Unified interpretations of SOLAS chapter II-2, the FSS Code, the FTP Code and related fire test procedures* (MSC/Circ.1120) to address the testing requirements for the floor covering materials, with a view to ensuring consistent implementation. Having agreed in principle with the proposal and noting that further consideration would be necessary intersessionally, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider document SSE 8/15/13, with a view to finalisation.

Fire testing requirements for pipe couplings. The Sub-Committee considered document SSE 8/15 (IACS), proposing a clarification of the fire testing requirements for pipe couplings required to remain operational after a safe return to port (SRTP) fire casualty in the *Interim Explanatory Notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty* (MSC.1/Circ.1369). It was noted that SDC 9 had considered a relevant agenda item on "Revision of the interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars." Having noted that the proposals in document SSE 8/15 could form part of the work under the SDC Sub-Committee's relevant agenda item, the Sub-Committee endorsed the technical substance of the proposal and invited MSC 107 to endorse the Sub-Committee's recommendation to refer the document to the Correspondence Group on Revision of the Interim Explanatory Notes (MSC.1/Circ.1369) established at SDC 9, with the participation of fire safety experts in the discussions of the Correspondence Group for inclusion into the revision of the circular.

Valve arrangements in the FSS Code. The Sub-Committee considered document SSE 8/15/8 (IACS), proposing an interpretation on the application of a non-return valve for a double-block and bleed arrangement and two shut-off valves in series with a venting valve in between, as required by paragraph 2.2.3.1.2 of chapter 15 of the FSS Code. Having agreed in principle with the proposal and noting that further consideration would be necessary intersessionally, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider document SSE 8/15/8, with a view to finalisation.

Unified interpretation of paragraph 2.1.2.6 of chapter 5 of the FSS Code. The Sub-Committee considered document SSE 9/14/5 (China), proposing a UI on paragraph 2.1.2.6 of chapter 5 of the FSS Code concerning air testing fitting installed in the discharge piping of fixed carbon dioxide systems. Having agreed in principle with the proposal and noting that further consideration would be necessary intersessionally, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider document SSE 9/14/5, with a view to finalisation.

Amendments to MSC.1/Circ.1276 on galley ducts. The Sub-Committee considered document SSE 9/14 (IACS), proposing to amend the interpretation of the separation of galley ducts from spaces contained in UIs of SOLAS chapter II-2 (MSC.1/Circ.1276), to align with SOLAS, as amended by resolution MSC.365(93). Following a brief discussion, the Sub-Committee agreed to the draft amendments, invited MSC to endorse the decision to replace the references to the ISO standard and to further revise the references when the revision work of the Standard (2015 edition) is finalised.

Unified interpretation of SOLAS regulations II-2/19.3.4.1 and II-2/19.3.5.4. The Sub-Committee considered document SSE 9/14/1 (IACS), proposing a revised draft interpretation of SOLAS regulations II-2/19.3.4.1 and II-2/19.3.5.4, pertaining to required air changes for the carriage of dangerous goods. Having agreed in principle with the proposal and noting that further consideration would be necessary intersessionally, the Sub-Committee agreed to instruct the FP Correspondence Group to further consider document SSE 9/14/1, with a view to finalisation.

Interpretation of SOLAS regulation II-2/9.7.4.5 on vertical ducts. The Sub-Committee considered document SSE 9/14/2 (IACS), proposing a draft interpretation of SOLAS regulation II-2/9.7.4.5, focusing on the fire insulation requirements for vertical ducts which pass through both a bulkhead and a deck, without serving the spaces through which they pass. Having noted some concerns on the complexity of the draft unified interpretation which might lead to misinterpretation, the Sub-Committee agreed to consider the proposal under the post-biennial output agreed by MSC 105, when appropriate.

Instructions to the FP Correspondence Group. In view of the above, the Sub-Committee instructed the FP Correspondence Group established under agenda item 15 (Development of provisions to prohibit the use of fire-fighting foams containing perfluorooctane sulfonic acid (PFOS) for fire-fighting on board ships), taking into account the comments made and decisions taken at SSE 9, and with a view to finalisation to:

- consider paragraphs 1 and 2 of the draft UI on the means of escape from the steering gear space in cargo ships set out in the annex to document SSE 8/15/1;
- consider document SSE 8/15/9 on a draft UI regarding cargo/vapour piping and related gas-freeing piping/ducts on tankers;
- consider document SSE 8/15/13 on draft amendments to MSC/Circ.1120 to address the testing requirements for the floor covering materials;
- consider document SSE 8/15/8 on a draft UI concerning the application of a non-return valve for a double-block and bleed arrangement and two shut-off valves in series with a venting valve in between;
- consider document SSE 9/14/5 on a UI regarding air testing fitting installed in the discharge piping of fixed carbon dioxide systems; and,
- consider document SSE 9/14/1 on a draft interpretation relating to required air changes for the carriage of dangerous goods.

REMAINING DOCUMENTS OF INTEREST.

Revision of MSC.1/Circ.1557. The Sub-Committee considered document SSE 8/15/6 (IACS), proposing a revision of *Hazardous area classification (application of SOLAS regulation II-1/45.11)* (MSC.1/Circ.1557), based on the comments received from IEC/TC 18. Following a brief discussion, the Sub-Committee agreed to the draft modifications to MSC.1/Circ.1557, and the associated draft MSC circular, for approval by MSC 107.

Single electric propulsion motors. The Sub-Committee considered document SSE 8/15/3 (IACS), seeking clarification of requirements of SOLAS regulation II-1/26.2 for single essential propulsion components and their reliability, and offering a draft interpretation thereof. In the ensuing discussion, the Sub-Committee considered whether the proposal should include other propulsion types, e.g. azimuth type, for an holistic approach to be reconsidered in the future possibly under a new output or whether it would currently suffice to address a specific design. Having agreed that the proposal would improve the safety of ships with unconventional propulsion designs currently available, the Sub-Committee agreed to the draft UI of SOLAS regulation II-1/26.2, and the associated draft MSC circular, for approval by MSC 107. It was also noted that future submissions could be considered involving other unconventional propulsion designs for a more holistic approach.

DEVELOPMENT OF PROVISIONS TO PROHIBIT THE USE OF FIRE-FIGHTING FOAMS CONTAINING PERFLUOROCTANE SULFONIC ACID (PFOS) FOR FIRE-FIGHTING ON BOARD SHIPS.

Modifications to the draft amendments. In accordance with the instructions given by MSC 106, the Sub-Committee had two documents for its consideration:

1. SSE 9/15 (Secretariat), providing information on the outcome of MSC 106 pertaining to the development of provisions to prohibit the use of fire-fighting foams containing PFOS on board ships, together with draft revision of MSC.1/Circ.1312, which was prepared in accordance with the proposals in document MSC 106/11/5.
2. SSE 9/15/1 (Norway et al.), considering the alternatives to fluorinated fire-fighting foam concentrates available for inclusion in ships' fire-fighting systems, and the intent of the PFOS ban approved by MSC 106; and commenting on the draft revised text of MSC.1/Circ.1312, submitted in document SSE 9/15.

Following discussion, and noting that further discussion on the prohibition of other fire-fighting foam types is necessary in addition to PFOS, the Sub-Committee invited MSC 107 to proceed with the expected adoption of the draft amendments to SOLAS and the HSC Codes. In addition, the FP Working Group was instructed to prepare a justification with a revised title of the agenda item for further discussion of the matter at the next session; and to consider consequential draft amendments to MSC.1/Circ.1312, taking into account the modifications in paragraph 14 of document SSE 9/15/1 for PFOS.

Instructions to the FP Working Group. The Sub-Committee instructed the FP Working Group, taking into account the comments made and decisions taken in plenary, to:

1. prepare a draft justification with a revised scope and title of the agenda item to provide room for further discussion on the prohibition of all relevant fire-fighting foam types; and,

2. consider consequential draft amendments to MSC.1/Circ.1312 on the banning of PFOS, based on the annex to document SSE 9/15 and taking into account document SSE 9/15/1.

Report of WG 2. Having considered the relevant part of the report of the FP Working Group dealing with this agenda item (SSE 9/WP.4), the Sub-Committee:

- agreed the revised output title of "Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS for fire-fighting on board ships", plus a brief justification, with a view to approval by MSC 107; and,
- endorsed the Group's recommendation to re-establish the Correspondence Group on Fire Protection with terms of reference as proposed, taking action as necessary.

AMENDMENTS TO THE LSA CODE CONCERNING SINGLE FALL AND HOOK SYSTEMS WITH ON-LOAD RELEASE CAPABILITY.

Background. The Sub-Committee recalled that SSE 7 had considered the agenda item on amendments to paragraph 4.4.7.6.17 of the LSA Code concerning single fall and hook systems with on-load release capability and had agreed to the draft amendments, in principle. The Sub-Committee also recalled that MSC 106 had considered document MSC 106/11/1 (Bahamas et al.), identifying an unforeseen consequence of the proposed deletion of paragraph 4.4.7.6.8 pertaining to off-load hooks. The agenda item was therefore reinstated, the scope of the output redefined and renamed as "Amendments to the LSA Code concerning single fall and hook systems with on-load release capability"; and, SSE 9 was instructed to complete the output as a matter of priority.

Draft amendments to the LSA Code. In accordance with the instructions by MSC 106, the Sub-Committee considered two documents: SSE 9/16 (Secretariat), providing information on the outcome of MSC 106 pertaining to amendments to the LSA Code concerning single fall and hook systems with on-load release capability, containing a draft MSC resolution incorporating proposed modifications (document MSC 106/11/1); and, SSE 9/16/1 (United States), commenting on document SSE 9/16, proposing draft amendments to paragraph 4.4.7.6 of the LSA Code.

In particular, the Sub-Committee considered the options in document MSC 106/11/1 (as reflected in document SSE 9/16) and document SSE 9/16/1 as an alternative. In the ensuing discussion, the Sub-Committee noted the following views:

- document MSC 106/11/1 was supported in general, however, it was considered that the proposed insertion of "solid hook with a spring-loaded guard on the hook mouth or other mechanically simplistic off-load release hook with few moving parts" might give room for ambiguous interpretations;
- as suggested in document SSE 9/16/1, the draft paragraph 4.4.7.6.17 of the LSA Code agreed by SSE 7 should be retained and paragraph 4.4.7.6.8 modified to clarify that hooks should not be able to support any load unless completely reset;

- as the suggested modification in document MSC 106/11/1 contained several vague expressions, document SSE 9/16/1 could serve as a base document to finalise the draft amendments; and,
- the inadvertent preclusion of the use of "solid hook with a spring-loaded guard on the hook mouth or other mechanically simplistic off-load release hook with few moving parts" should be avoided.

In view of the above, the Sub-Committee instructed the LSA Working Group to finalise the draft amendments to the LSA Code, based on document SSE 9/16/1 and taking into account document MSC 106/11/1.

Report of the LSA Working Group. Having considered the relevant part of the report of the LSA Working Group dealing with this agenda item, the Sub-Committee agreed to the draft amendments to chapter IV of the LSA Code on single fall and hook systems, with a view to approval by MSC 107 and subsequent adoption by MSC 108.

ANY OTHER BUSINESS.

Draft OPS Guidelines. The Sub-Committee recalled that: SSE 7 had finalised the draft interim guidelines on safe operation of onshore power supply (OPS) service in port for ships engaged on international voyages, for submission to MSC 103 for approval, subject to consideration of the personnel, training and familiarisation provisions by HTW 7, which was postponed to HTW 8.

MSC 103 had considered modification proposals in document MSC 103/16/1 (IACS) and had noted the pending input from HTW 8; and, therefore, had referred the draft interim guidelines to SSE 8.

HTW 8 had considered the personnel, training and familiarisation provisions in section 6 of the draft interim guidelines and provided input and modifications but identified an inconsistency in the terms and definitions in section 1.2 for SSE 8's consideration; and finally,

SSE 8 had considered the draft interim guidelines, as revised, with additional modifications proposed by observers from IACS and ICS; and taking into account that more time would be required to finesse the draft interim guidelines, had invited relevant submissions to this session for finalisation.

Submissions made to this session. Three documents were submitted for consideration and in the ensuing discussion, the Sub-Committee examined the options provided, in particular, those relating to section 4 (Safety precautions before maintenance) of the draft interim guidelines, and agreed to the option provided in document SSE 9/19/10. Following discussion, the Sub-Committee agreed to establish the Drafting Group on Onshore Power Supply and to refer documents SSE 9/19 (Secretariat) and SSE 9/19/10 (United States) to the Drafting Group for the finalisation of the draft interim guidelines.

Report of the Drafting Group on Onshore Power Supply. Having considered the relevant part of the report of the Drafting Group, the Sub-Committee:

- agreed to the draft interim guidelines on safe operation of onshore power supply (OPS) service in port for ships engaged on international voyages and the associated MSC circular, for submission to MSC 107, with a view to approval; and,
- noted the information that the latest edition of Standard "IEC/IEEE 80005-1:2019+Amd 1:2022" is now publicly available and the Group's discussion in this regard.

LSA matters

ISO Standard 23678 and revision of resolution MSC.402(96). The Sub-Committee recalled that SSE 8 had considered documents SSE 8/15/5 (IACS) and SEE 8/15/14 (ILAMA), with regard to ISO Standard 23678 and the implementation of *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* (resolution MSC.402(96)), and had agreed to defer the matter, pending an expected input by the Committee. It was also recalled that MSC 106 had:

- Considered a large number of documents relevant to the matter;
- noted that ISO had recently published Standard 23678:2022 (series) (MSC 106/18/5), changing its status from publicly available standard (PAS) to a full international standard;
- agreed that it was premature to conclude on the matter of ISO Standard 23678 and the implementation of resolution MSC.402(96), and that more discussion by the technical experts in the SSE Sub-Committee was necessary; and,
- instructed the Sub-Committee to consider, as an urgent matter, all relevant submissions, with a view to reporting the outcome to MSC 107, in particular on the following aspects:
 - whether ISO 23678 could be referenced in resolution MSC.402(96) as a footnote and the resolution amended;
 - clarification and implementation of resolution MSC.402(96), including "certification programme" and "make and type", with a view to revising the resolution;
 - the draft MSC circular as proposed in documents MSC 102/22/6 and MSC 106/18/5, taking into account an additional paragraph proposed in this regard to read "Member Governments are invited to consider and bring to the attention of recognised organisations acting on their behalf Standard ISO 23678:2022 when authorising service providers in accordance with resolution MSC.402(96)"; and,
 - applicability of the Requirements (resolution MSC.402(96)) to inflated rescue boats, including the applicability of SOLAS regulation III/20.11; as well as to the LSA equipment installed on high-speed craft and mobile offshore drilling units.

Five documents were submitted for consideration and in respect of 'method of work', the Sub-Committee agreed not to discuss whether ISO/PAS Standard could be referenced in a mandatory instrument from the scope, as it was not needed anymore; and, considered

some options provided by the Chair on how to address comprehensive and complex matters on ISO 23678, and the implementation of resolution MSC.402(96), together with other options suggested by the delegations.

Following discussion, the Sub-Committee agreed that further dialogue was necessary on the matter and that various proposals could be better addressed under a new output, whilst the LSA Correspondence Group, if established, could be tasked to consider relevant submissions, subject to the Committee's agreement of the new output. With this in mind, the Sub-Committee prepared a relevant justification for a new output with respect to ISO 23678 and resolution MSC.402(96), and invited MSC 107 to:

- note the discussion of the Sub-Committee on this matter;
- consider the draft justification for a new output for inclusion in the biennial agenda for 2022-2023 and the provisional agenda for SSE 10, and take action, as appropriate; and,
- endorse the instructions given to the LSA Correspondence Group established at this session to consider the relevant documents and proposals therein and advise SSE 10 accordingly under the new output, if agreed by the Committee.

DATE OF NEXT MEETING.

The next meeting of the SSE Sub-Committee (SSE 10) will take place during March 2024.

End

Captain Paddy McKnight