

IMO SUB-COMMITTEE ON SHIP SYSTEMS AND EQUIPMENT, 10th SESSION 4 - 8 March 2024

The IMO Sub-Committee on Ship Safety, Systems and Equipment held its 10th Session, remotely, from Monday 4 through Friday 8 March 2024 under the retiring Chair, Mr Umut Senturk (Turkey), assisted by his Vice-Chair, Vice-Admiral C. Aliperta (Palau). The meeting was attended by representatives from Member States, Associate Members, Intergovernmental organisations and Non-Governmental organisations.

ADDRESS BY THE IMO SECRETARY-GENERAL. Mr Arsenio Dominguez welcomed delegates to the meeting and stated that since the SSE Sub-Committee is the technical body tasked primarily to ensure fire safety of ships and their crews and passengers, as well as providing oversight for adequate life-saving appliances, SSE expertise is crucial to ensure that the IMO regulatory framework is fit for purpose.

He urged the immediate release of the **Galaxy Leader** and its crew, reiterating his firm belief that the exercise of navigational rights and freedom by merchant vessels must be respected. In this context, the recent sinking of the vessel **Rubymar** represents an additional risk for the environment and maritime security but IMO will continue its efforts to enhance the safety of seafarers and transit of all vessels through the Red Sea. Following on from that, he revealed that this year's World Maritime theme is: "Navigating the future: safety first!", a pledge to uphold the highest standards of safety in every aspect.

Turning to the meeting agenda, an ambitious one in his view, six new items will be introduced on important matters for which the sector is expecting tangible solutions.

With respect to fire safety, deliberations will continue on addressing containership fires following last October's meeting of the Experts Group on Formal Safety Assessment (FSA), and discussions will be initiated on prevention and extinction of fires on board ships carrying electric vehicles.

Concerning life-saving appliances, the revision of SOLAS chapter III and the International Life-Saving Appliance (LSA) Code will be discussed following the second intersessional working group on that matter, as well as the revision of requirements for servicing lifeboats and rescue boats, and their launching appliances under a new dedicated output.

Before closing, Mr. Dominguez reminded delegates that this year's International Women's Day will be celebrated by a discussion in the Main Hall of IMO on the theme "Invest in Women" on 7 March to which he invited everyone present, after which he proffered best wishes to all delegates for a productive session.

Following the Secretary-General's address, two Working Groups (WG) and a Drafting Group (DG) were formed and chaired as follows:

WG 1 Life Saving Appliances, Mr. A. Grills (United States).

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

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

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1 ADOPTION OF THE AGENDA The agenda in document SSE 10/1 was duly adopted.

Statements by delegations with respect to attacks on ships in the Gulf of Aden and the Red Sea. A number of delegations expressed concerns for the safety of ships and their crew following attacks by Houthi rebels on commercial ships in the Red Sea and the Gulf of Aden and, in this respect, commended the Secretary-General's effort in bringing the situation to the attention of the United Nations Security Council at its special session on 2 January 2024. Plenary condemned the acts against commercial ships and seafarers while expressing grave concern for the region and the disruption caused to international trade. A number of delegations, having highlighted the devastating impact such attacks had on innocent seafarers, especially those on board the **MV Galaxy Leader**, the crew of which were still being held hostage, called for the immediate release of the ship and its crew. Some delegations also condemned the attacks on **MV Rubymar**, which sank with a cargo of 21.000 metric tons of fertiliser on 3 March 2024 after it was struck on 18 February by multiple missiles, causing environmental damage.

2 DECISIONS OF OTHER IMO BODIES The Sub-Committee, having noted the decisions and comments pertaining to its work made by MSC 107, C 129, III 9 and CCC 9, as reported in document SSE 10/2 (Secretariat), agreed to take action, as appropriate, under the relevant agenda items.

3 NEW REQUIREMENTS FOR VENTILATION OF SURVIVAL CRAFT

Background. The Sub-Committee recalled that SSE 9 had considered the compelling need for ventilation requirements for partially enclosed lifeboats and liferafts, and had agreed that more discussion is required on the compelling need for same. SSE 9, having also agreed to keep the agenda item on the provisional agenda of this session for further discussion on the compelling need, had deferred consideration of the specific proposals in documents SSE 9/3/3 (India), SSE 9/3/5 (India) and SSE 9/3/6 (China), suggesting amendments to the LSA Code and the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)) for partially enclosed lifeboats and liferafts, together with any other relevant submissions, to SSE 10. The Sub-Committee also recalled that MSC 107, having noted the discussion and decision of SSE 9 in relation to totally enclosed lifeboats, had adopted two resolutions: MSC.535(107), containing amendments to the

LSA Code, and MSC.544(107) containing amendments to the Revised Recommendation (resolution MSC.81(70)).

Furthermore, MSC 107 had approved: MSC.1/Circ.1630/Rev.2 on Revised standardised life-saving appliance evaluation and test report forms (survival craft); also draft amendments to paragraph 6.2.3 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)), with a view to adoption at MSC 108.

Compelling need for ventilation requirements for partially enclosed lifeboats and liferafts. While discussing whether there is a compelling need for ventilation requirements for partially enclosed lifeboats and liferafts, the Sub-Committee considered four documents which had been submitted. This led to an inconclusive discussion on matters between support for the compelling need and those with a contrary view.

Given such split views, the Sub-Committee, while concluding that a further opportunity to discuss the matter with more supporting information should be offered, invited relevant submissions to the next session, to justify the compelling need for ventilation requirements for partially enclosed lifeboats and liferafts, with the understanding that the item would be considered completed if no submissions justifying the compelling need were received at SSE 11, for a second year. Accordingly, the Sub-Committee invited MSC 109, to extend the target completion year for this output to 2025.

4 DEVELOPMENT OF DESIGN AND PROTOTYPE TEST REQUIREMENTS FOR THE ARRANGEMENTS USED IN THE OPERATIONAL TESTING OF FREE-FALL LIFEBOAT RELEASE SYSTEMS WITHOUT LAUNCHING THE LIFEBOAT

Background. The Sub-Committee recalled that MSC 101 had considered document MSC 101/21/10 (Marshall Islands et al.), proposing the development of design and prototype test requirements for the arrangements used in the operational testing of free-fall lifeboat release systems without launching the lifeboat, i.e. equipment used in the simulated launching of free-fall lifeboats, to which the Committee agreed, assigning the SSE Sub-Committee as the coordinating organ. In addition, MSC 101 agreed that:

- .1 the purpose of the output was to include in the LSA Code, requirements for the design of "the arrangements", taking into account the static weight of the lifeboat, as well as the shock-load that would be experienced in the operational testing of the free-fall lifeboat release system without launching the lifeboat (a simulated launch);
- .2 the amendments to be developed should apply to all ships for which SOLAS chapter III requires the carriage of free-fall lifeboats; and,
- .3 the instrument to be amended is the LSA Code.

Following discussion, the Sub-Committee agreed to establish the LSA Working Group and to refer all documents to the Group for further consideration, with document SSE 10/4 being the basis and the others being taken into account.

Establishment of the LSA Working Group. The Sub-Committee established the LSA Working Group (WG 1) and instructed it, taking into account comments made, and decisions taken, in plenary, to: consider the design and prototype test requirements for the arrangements used in the operational testing of free-fall lifeboat release systems without launching the lifeboat; prepare a brief justification for expanding the current scope of the output to include other instruments to be amended, in addition to the LSA Code; and, if time permits, prepare consequential draft amendments to *Revised standardized life-saving appliance evaluation and test report forms (survival craft)*.

Report of the LSA Working Group. Having considered the relevant part of the report of the LSA Working Group, the Sub-Committee approved it in general, and in particular:

.1 agreed in principle with draft amendments to paragraph 4.7.6.4 of the LSA Code, including the associated draft MSC resolution containing the relevant implementation provisions, with a view to finalisation by SSE 11;

.2 noted the considerations of the Group concerning the testing arrangement for the free-fall lifeboat release systems, including the draft amendments to resolution MSC.81(70) which require further consideration;

.3 agreed to the draft justification for expanding the scope of the output to include resolutions MSC.81(70) and MSC.402(96) and other related instruments, with a view to endorsement by MSC 109; and,

.4 concurred with the understanding of the Group with regard to further progression of the work;

5 REVISION OF SOLAS CHAPTER III AND THE LSA CODE

Background. It was recalled that SSE 9 had:

.1 considered the report of the first meeting of the Intersessional Working Group on the Revision of SOLAS chapter III and the LSA Code, together with the report of the meeting of the Group of Interested Parties, which had discussed hazard identification and further progressed the draft hazard identification matrix;

.2 endorsed the categorisation of documents submitted to SSE 7 and SSE 8, based on the agreement of SSE 8 on the criteria to categorise technical submissions proposing amendments to SOLAS chapter III and/or the LSA Code that did not directly serve the primary objective of the output, and had invited submitters to take appropriate actions in accordance with the criteria; and,

.3 not been able to progress the work on hazard identification and agreed to re-establish the intersessional Working Group on the Revision of SOLAS chapter III and the LSA Code.

Report of the second Intersessional Working Group (ISWG). Document SSE 10/5 (Germany), provided a report of the second meeting of the ISWG and after due consideration, the Sub-Committee approved the report in general, and in particular:

- .1 noted the discussion on hazard identification and the finalisation of the hazard identification and their ranking;
- .2 noted the outcome of the consideration of "unregulated ship" condition and the assumptions made during the hazard identification and the ranking of hazards; and,
- .3 instructed the LSA Working Group to review the outcome of hazard identification and the ranking of hazards for subsequent development of goals, functional requirements and associated expected performances for SOLAS chapter III, in accordance with the action plan agreed by SSE 7.

Accidents related to faulty lifeboat slings. It was recalled that III 9 had invited the Sub-Committee to consider the information provided in document III 9/4/4 (China) on the re-analysis of the safety risks involved, and presenting countermeasures against, repetition of certain similar accidents related to lifeboat slings. Having noted that a similar submission had been made by China in document SSE 10/14/2, it was decided to consider this matter under agenda item 14.

Instructions to the LSA Working Group. The Sub-Committee instructed WG 1, taking into account comments made, and decisions taken in plenary, to review the ranking of the hazards with a view to drafting goals, functional requirements and associated expected performances for SOLAS chapter III, based on annex 2 to document SSE 10/5.

Report of the LSA Working Group (WG 1). The Sub-Committee agreed to the draft road map produced by WG 1 to facilitate drafting of related functional requirements and expected performances for SOLAS chapter III and the LSA Code, for consideration by the intersessional Correspondence Group.

6 AMENDMENTS TO SOLAS CHAPTER III AND CHAPTER IV OF THE LSA CODE TO REQUIRE THE CARRIAGE OF SELF-RIGHTING OR CANOPIED REVERSIBLE LIFERAFTS FOR NEW SHIPS

Discussion. The Sub-Committee had for its consideration, document SSE 10/6 (China), introducing the carriage and user experience of automatically self-righting and canopied reversible liferafts, including safety, cost, and arrangements discussing the technical requirements of liferafts; also, proposing draft amendments to SOLAS chapter III and chapter IV of the LSA Code. SSE 10/6/1 (Japan), discussed the scope of application of the amendments to SOLAS chapter III and chapter IV of the LSA Code in relation to the carriage of self-righting or canopied reversible liferafts.

Following discussion, the item was passed to WG 1. In considering WG 1's subsequent report, the Sub-Committee:

.1 noted that the Group could not reach a consensus on the scope of the draft amendments to SOLAS chapter III, and chapter IV of the LSA Code regarding automatically self-righting or canopied reversible liferafts; and,

.2 agreed, taking into account .1 above, to invite interested Member States and international organisations to submit further proposals, providing comments and relevant justification on the scope of the output, to SSE 11.

7 DEVELOPMENT OF AMENDMENTS TO PARAGRAPH 8.3.5 AND ANNEX 1 OF THE 1994 AND 2000 HSC CODE

Discussion. The Sub-Committee considered document MSC 101/21/7 (Norway), providing relevant amendments to the 1994 and 2000 HSC Codes to harmonise the lifejacket carriage requirements therein with SOLAS chapter III. In this connection, the Sub-Committee noted that the draft amendments did not contain any application provisions for new and existing craft and agreed that these provisions needed to be developed. Having agreed with the proposed amendments set out in annex 1 to document MSC 101/21/7, the Sub-Committee instructed the LSA Working Group to finalise them, together with an implementation provision, with a view to approval by MSC 109 and subsequent adoption by MSC 110.

Report of WG 1. Having considered the relevant part of the report of the LSA Working Group, the Sub-Committee agreed the draft amendments to the 1994 and 2000 HSC Codes together with the associated draft MSC resolutions, with a view to approval by MSC 109 and subsequent adoption by MSC 110. In addition, the Secretariat was requested to complete part III of the check/monitoring sheet and the records for regulatory development after the session, and bring any incomplete items to the attention of the Committee.

8 REVISION OF THE 2010 FTP CODE TO ALLOW FOR NEW FIRE PROTECTION SYSTEMS AND MATERIALS

Discussion. The Sub-Committee considered document SSE 10/8 (United States), identifying ambiguities in the 2010 FTP Code and proposing new materials and construction techniques to be addressed in the revision of the Code, in coordination with the review and update of SOLAS regulation II-2/9. The proposals in paragraph 22 of the document were supported in general and should be utilised when drafting necessary amendments to the 2010 FTP Code.

There followed further discussion regarding the use of various materials, the necessity of testing panels on both sides, clarification of 'modular construction' and the import of air-gap temperatures in order to evaluate thermodynamic phenomena on air gaps. Following discussion, the Sub-Committee:

.1 agreed, in principle, with the proposals in paragraph 22 to document SSE 10/8;

.2 also agreed to coordinate the work under this output with that of the post-biennial item on "Review and update SOLAS regulation II-2/9 on containment of fire to

incorporate existing guidance and clarify requirements", pending the Committee's decision to lift the output from its post-biennial agenda to the provisional agenda of SSE 11, ensuring that the ongoing work on the revision of the 2010 FTP Code should have priority and not be delayed while expecting any relevant inputs emanating from the revision of SOLAS regulation II-2/9; and,

.3 invited relevant proposals to SSE 11 for amending the 2010 FTP Code.

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

Discussion. The Sub-Committee noted that no additional documents had been submitted to SSE 9 and SSE 10, and that, in accordance with paragraph 5.12 of the Organisation and *method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies*, subsidiary bodies should seek the advice of the Committee in the case of outputs for which no submission has been received for two consecutive sessions.

Completion of the work on the output. It was decided to invite the Committee to rule that the work on this output has been completed; and to inform ICAO of such a decision, pending consideration of the matter by MSC 109.

10 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

Background. The Sub-Committee recalled that SSE 8 had considered specific proposals related to containership fires and had deferred consideration of documents SSE 8/10/1 (China) and SSE 8/10/2 (Denmark), containing technical proposals, to a future session of the Sub-Committee, together with the Formal Safety Assessment (FSA) Experts Group's report concerning detection and control of fires in cargo holds and on the cargo deck of containerships, for a holistic approach. It was also recalled that SSE 9 noted that the CARGOSAFE FSA study, commissioned by the European Maritime Safety Agency (EMSA), had been completed and the report would be submitted to MSC 107.

Report of the FSA Experts Group. The Sub-Committee considered document SSE 10/10 containing the report of the FSA Experts Group and approved it in general. Of note, following a largely complimentary appraisal, it was observed that the revised FSA Guidelines could be improved by addressing the observations made by the Group, possibly in conjunction with the recommendations made by the previous iteration of the FSA Experts Group having reported to MSC 102. The Sub-Committee invited MSC 109 to consider the relevant Group's observations.

Technical evaluation of the CARGOSAFE FSA study. Document SSE 10/10/1 (IACS), provided information on the technical evaluation performed by IACS of the CARGOSAFE FSA study, and initial deliberations on the risk mitigating measures proposed therein.

Following consideration, the Sub-Committee agreed to refer document SSE 10/10/1 to the FP Working Group for further review.

Fixed water monitor as an alternative means for a mobile water monitor. The Sub-Committee considered document SSE 9/10 (Qatar et al.), proposing fixed water monitors as an alternative means for a mobile water monitor to improve the fire-fighting capability for the cargo deck area of containerships. Following discussion, the Sub-Committee agreed to refer document SSE 9/10 to the FP Working Group for consideration, in light of the identification and prioritisation of most viable RCOs of the draft amendments to SOLAS regulation II-2/10.7.3 and draft guidelines for fixed water monitors, based on annexes 1 and 2 of the document.

Video fire detection systems. The Sub-Committee agreed to refer documents SSE 9/10/1 and SSE 10/INF.12 (both from the Republic of Korea) to the FP Working Group for consideration of the proposal on the application of a video fire detection system, as an alternative fire detection system for on-deck cargo areas of containerships, in light of the identification and prioritisation of most viable RCOs.

Portable infrared thermal imagers and thermometers. Document SSE 8/10/1 (China), proposed to enhance the capabilities of containerships for early fire detection in cargo holds and on cargo decks through portable infrared (IR) thermal imagers and thermometers, which document was referred to the FP Working Group, in light of the identification and prioritisation of most viable RCOs.

Standards for water mist lances. Document SSE 8/10/2 (Denmark), commented on document SSE 8/10 (Bahamas et al.) and proposed draft guidelines for the design, performance, testing and approval of water mist lances used for the protection of on-deck cargo areas of ships designed and constructed to carry containers on or above the weather deck. It was agreed to refer the document to the FP Working Group.

Establishment of the FP Working Group. The Sub-Committee established the Working Group on Fire Protection (FP) with appropriate terms of reference and instructed it accordingly, taking into account comments made, relevant documents submitted, and, decisions taken.

Report of the FP Working Group (WP 2). Having considered the relevant part of the report of the FP Working Group, the Sub-Committee:

.1 endorsed the agreement of the Group that further consideration is necessary at the next session for the following items:

.1 video fire detection system;

.2 protection of hatch covers;

.3 implications for other systems or other parts of the existing requirements, e.g. water pump capacity, bilge capacity and breathing air capacity, stored

air and compressor arrangement for fire-fighters as well as type and number of fire-fighters' outfits;

.4 structural fire protection;

.5 fixed CO2 fire extinguishing systems;

.6 fixed high expansion foam fire extinguishing system; and,

.7 other fire safety measures, e.g. protection of weather decks on cargo ships and permanent openings in ro-ro spaces;

.2 encouraged Member States to share their experience on using water mist lances with the correspondence group;

.3 referred the identified risk-prevention-related areas to the CCC and HTW Sub-Committees, for their consideration, as appropriate;

.4 encouraged interested Member States and international organisations to submit further proposals for addition to the list of risk-prevention-related areas to SSE 11, taking into account paragraph 4.3.1 (Risk Control Measures) of the CARGOSAFE study report.

11 VALIDATED MODEL TRAINING COURSES. It was recalled that SSE 7 had discussed the need for revising model courses under its purview plus the applicable procedures, 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. It was further recalled that SSE 9 had agreed and validated revised Model Course 3.03 and its compendium; approved the draft terms of reference for the course developer and the Review Group for the revision of Model Course 3.04 on Survey of Electrical Installations, with a view to validation of the revision at this session; and, established a review group to work between sessions by correspondence to review the revision of Model Course 3.04.

Draft revised Model Course 3.04. The Sub-Committee considered document SSE 10/11 (Secretariat), containing the report of the Review Group on draft revised Model Course 3.04 on Survey of Electrical Installations. Having agreed to the draft revision in principle, a Drafting Group on Model Courses was established and instructed to finalise Model Course 3.04, based on document SSE 10/11, with a view to validation. It was recalled that SSE 7 had also agreed to revise the following model courses:

.1 Model Course 3.05 on Survey of Fire Appliances and Provisions; and,

.2 Model Course 3.06 on Survey of Life-saving Appliances and Arrangements.

The Sub-Committee therefore 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

draft terms of reference for the Review Group, based on progress made by the Group on the finalisation of Model Course 3.04 at this session.

Report of the Drafting Group. Following deliberations by the DG, the Sub-Committee approved their report in general and, in particular:

- .1 endorsed the decisions taken by the Group and validated the draft revised Model Course 3.04;
- .2 encouraged the active participation of more members in both the Review Group and the Drafting Group to enhance the quality of future model courses; and,
- .3 agreed that the next model course under the purview of the Sub-Committee to be revised will be Model Course 3.05 with the corresponding draft terms of reference for the course developer(s) and the Review Group as set out in the annex to WP.5.

12 UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, ENVIRONMENT, FACILITATION, LIABILITY AND COMPENSATION-RELATED CONVENTIONS.

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, had expanded the output to include all proposed Unified Interpretations (UIs) to provisions of IMO safety, security and environment-related conventions, so that any newly developed or updated draft unified interpretation could be submitted for consideration by the Sub-Committee, with a view to developing an appropriate IMO interpretation. Following discussion as to whether 'unanimity' should be required for the approval of a UI, the IMO Director of Legal Affairs advised that, contrary to previous practice, amendments to mandatory international instruments under IMO, such as SOLAS, usually required only a two-thirds majority for entry into force, and not unanimity. Following this, the Secretariat was requested to provide legal advice to MSC 108 on how to approach the approval of UIs when there is no unanimity.

LSA-RELATED MATTERS

Launching of rescue boats on a cargo ship. The Sub-Committee recalled that at SSE9, clarification had been sought on the implementation of the LSA Code in relation to the launching of rescue boats on a cargo ship. Agreement was given in principle, with the proposals to establish a UI on the requirement for manual hoisting of a dedicated rescue boat in the LSA Code, for which the LSA Correspondence Group was tasked accordingly.

Report of the Correspondence Group and commenting documents. The Sub-Committee approved, in general, the report of the LSA Correspondence Group (SSE 10/14). Following discussion, the Sub-Committee concluded that more discussion was necessary and instructed the LSA Correspondence Group to re-consider the draft UIs of paragraphs 6.1.1.3 and 6.1.2.2 of the LSA Code, regarding the launching of rescue

boats, based on document SSE 10/14 (relevant part), and taking into account documents SSE 10/12/7, SSE 10/12/12 and SSE 10/12/13 for advice and action, as appropriate

Applicability of SOLAS regulation III/20.11 and resolution MSC.402(96) to inflated rescue boats. Following discussion, the Sub-Committee noted that the wording of the draft UI might need to be clarified by adding the word "also" as follows: "SOLAS regulation III/20.11 and resolution MSC.402(96) should also be applicable to inflated rescue boats." Having concurred with the above modification, the Sub-Committee agreed to the draft MSC circular on UIs of SOLAS regulations III/20.8.4 and 20.11, and of resolution MSC.402(96), on the applicability of SOLAS regulation III/20.11 and resolution MSC.402(96) to inflated rescue boats, as modified, together with the associated draft MSC circular, with a view to approval by MSC 109.

FP-RELATED MATTERS.

Matters addressed by the FP Correspondence Group. The Sub-Committee considered document SSE 10/13 (Norway), containing the relevant part of the report of the FP Correspondence Group and, having approved it in general, took action as outlined below.

Means of escape from the steering gear space on cargo ships (SSE 8/15/1). Following discussion, it was agreed a UI is not needed, inviting IACS to take action as appropriate.

Draft unified interpretation of SOLAS and the IBC Code (SSE 8/15/19). Approved.

Testing requirements in SOLAS for floor covering materials (SSE 8/15/13). Amendments necessary, IACS and interested delegations to submit proposals for a new output.

Requirements in chapter 15 of the FSS Code on inert gas systems on tankers (SSE 8/15/8). UI not needed, IACS to note.

Requirements in chapter 5 of the FSS Code relating to air testing fitting (SSE 9/14/5). Amendments necessary, China and interested parties to submit proposals for a new output.

Required air changes for the carriage of dangerous goods. UI not needed, IACS to note.

Unified interpretation of SOLAS regulation II-2/11.4.1. Following consideration, the Sub-Committee agreed a draft MSC circular on UI of SOLAS regulation II-2/11.4.1, on the crowns of a machinery space of category A, as modified, together with the associated draft MSC circular, with a view to approval by MSC 109.

Unified interpretation of SOLAS regulation II-2/4.2.2.3.5.2.1. Document SSE 10/12/1 (IACS), proposed a UI of SOLAS regulation II-2/4.2.2.3.5.2.1 regarding acceptable equivalent arrangements relating to level gauges with self-closing valves for oil tanks in passenger ships. Following discussion, the Sub-Committee did not endorse the proposed UI, and invited IACS to submit a revised proposal to a future session.

Unified interpretation of SOLAS regulation II-2/4.2.4. The Sub-Committee considered document SSE 10/12/2 (IACS), proposing a UI regarding the fitting of the small-diameter self-closing control cock required by SOLAS regulation II-2/4 on sounding pipes in certain tanks. It was concluded that more discussion is necessary and the FP Correspondence Group was instructed to consider document SSE 10/12/2 (IACS), with a view to advising how best to proceed, including the validity of the proposed UI.

Unified interpretation of SOLAS regulations II-2/4.5.3.2.2 and 11.6.3.2. The Sub-Committee considered document SSE 10/12/5 (IACS), proposing a UI on the secondary means of venting cargo tanks required in SOLAS regulations II-2/11.6.3.2 and 4.5.3.2.2, as amended by resolution MSC.392(95), to achieve a unified understanding and implementation. Having concurred with the suggested modification, the Sub-Committee agreed to the draft MSC circular on unified interpretation of SOLAS regulations II-2/4.5.3.2.2 and 11.6.3.2, on the secondary means of venting cargo tanks, as modified, together with the associated draft MSC circular, with a view to approval by MSC 109.

Unified interpretation of paragraph 2.2.1.7 of chapter 5 of the FSS Code. Document SSE 10/12/10 (United States), proposed draft amendments to the UI of paragraph 2.2.1.7 of chapter 5 of the International Code for Fire Safety Systems but was not supported.

Single electric propulsion motors. This item engendered a lively debate. Some considered that the proposed UI set out in annex 16 to document SSE 9/20 should be applied to passenger ships only, due to the specificities of passenger ships and, in particular, the requirement for safe return to port under SOLAS regulation II-2/21. Notwithstanding the views above, others felt that a significant portion of the information provided by IACS is not current and, therefore, not sufficient to validate the concerns regarding the reliability of single motor propulsion. Additionally, it was considered that the recent failures recorded in documents SSE 10/12/9 and SSE 10/INF.7, would not be sufficient to determine whether a UI is necessary, given that document SSE 10/12/9 provides contradictory data. Therefore, more up-to-date research and data are required for future consideration and the proposal was not supported at this stage.

Finland made a statement with regard to their concerns that the draft UI would have an impact on currently allowed designs and arrangements on cargo ships and that the data provided is not sufficient to validate safety concerns regarding the reliability of electric motors. IACS made a statement with regard to the specific comments contained in document SSE 10/INF.7, in particular emphasising a significant safety risk on the basis that failures of electrical machines do occur.

Taking into account the support and absence of objection to the draft UI for passenger ships, the Sub-Committee agreed to a draft MSC circular on Unified interpretation of SOLAS regulation II-1/26.2 applicable to passenger ships only, with a view to approval by MSC 109 and effective date of 1 January 2026.

Unified interpretation of regulation 3.5.1 of the IBC Code. This proposal by the Russian Federation, already turned down at PPR 11, was not supported by the Sub-Committee.

Factual statement for the test and thorough examination of non-certified lifting appliances. The Sub-Committee considered document SSE 10/12/6 (Germany and IACS), proposing a draft UI of SOLAS regulation II-1/3-13.2.4 to facilitate uniform documentation of load testing and thorough examination for existing non-certified lifting appliances. Following consideration, the Sub-Committee did not support the proposal; and invited Germany and IACS to note the comments made and to take action, as appropriate, with a potential submission of a revised proposal to a future session of SSE.

13 DEVELOPMENT OF PROVISIONS TO CONSIDER PROHIBITING THE USE OF FIRE-FIGHTING FOAMS CONTAINING FLUORINATED SUBSTANCES, IN ADDITION TO PFOS, FOR FIRE-FIGHTING ON BOARD SHIP

Background. The Sub-Committee recalled that SSE 9 had re-established the Correspondence Group on Fire Protection (FP) to further consider and finalise the draft consequential amendments to *Revised guidelines for the performance and testing criteria, and surveys of foam concentrates for fixed fire-extinguishing systems* (MSC.1/Circ.1312), emanating from the draft amendments prohibiting the use of PFOS.

Report of the Correspondence Group. The Sub-Committee agreed with the conclusion of the Group on the revision of MSC.1/Circ.1312 addressing banning of fluorinated substances in foam concentrates, that such revision is not necessary at this stage and the matter should be re-visited in case the ban is expanded to cover other types of fluor-based foam concentrates. Relevant submissions were invited to the next SSE session.

14 COMPREHENSIVE REVIEW 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)) TO ADDRESS CHALLENGES WITH THEIR IMPLEMENTATION

Discussions at SSE 9. The Sub-Committee recalled that SSE 9 had:

.1 continued the discussion 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));

.2 agreed that further discussion was necessary on the matter;

.3 prepared the justification for a new output on .1 above to address challenges with implementation of the requirements; and,

.4 instructed the LSA Correspondence Group to consider all relevant submissions made to SSE 9, as well as to the Committee, with regard to:

.1 safety issues and barriers to consistent implementation of the Requirements (resolution MSC.402(96)), including ambiguities in the use of terms therein; and,

.2 the applicability of the Requirements to inflatable rescue boats and the LSA equipment installed on high-speed craft and mobile offshore drilling units.

The Sub-Committee also recalled that MSC 107 had:

.1 noted the discussion during SSE 9 on ISO Standard 23678 and the revision of resolution MSC.402(96);

.2 agreed to the draft new output prepared by SSE 9 for inclusion in the biennial agenda for 2024-2025 and the provisional agenda of this session, assigning the SSE Sub-Committee as an associated organ;

.3 agreed that the instrument to be amended is resolution MSC.402(96) with application to all ships to which SOLAS applies;

.4 agreed that the amendments to be developed should enter into force on 1 January 2028, provided that they are adopted before 1 July 2026; and,

.5 endorsed the instructions given to the LSA Correspondence Group established at SSE 9.

Report of the Correspondence Group. The Sub-Committee considered the relevant part of document SSE 10/14, containing the report of the LSA Correspondence Group. In this context, the Sub-Committee:

.1 endorsed the Group's recommendation on the applicability of the requirements in resolution MSC.402(96) to inflatable rescue boats and to the LSA equipment installed on high-speed craft and mobile offshore drilling units;

.2 agreed that the HSC and MODU Codes would need to be amended in order to apply resolution MSC.402(96) to LSA equipment installed on high-speed craft and mobile offshore drilling units;

.3 instructed the LSA Working Group to prepare a draft justification for a relevant new output for consideration by MSC 109; and,

.4 noted the list of safety issues and barriers to consistent implementation of the requirements contained in resolution MSC.402(96); and referred them to the LSA Working Group for Validation and Prioritisation.

In this context, the Sub-Committee noted that the list of safety issues and barriers in document SSE 10/14 is indicative, also document SSE 9/19/5 (ILAMA) provides relevant proposals regarding maintenance and inspection of suspension parts used on survival craft, which should be taken into account.

Safety issues and barriers. The Sub-Committee considered document SSE 10/14/1 (IACS), providing comments on document SSE 10/14, relating to identified safety issues and barriers to consistent implementation of resolution MSC.402(96), with a view to prioritising the issues and establishing relevant solutions. In the ensuing discussion, the Sub-Committee noted the view that a proposal in paragraph 27 of the document, in relation to the annual servicing other than the five-year servicing, should be carefully considered. In effect, such an approach might be in conflict with SOLAS regulation III/20.11, which requires that tests shall be conducted during annual surveys, as opposed to the time window proposed in the document, i.e. prior to the annual survey but within the survey window. This could set a precedent for other requirements and lead to confusion. The Sub-Committee then referred document SSE 10/14/1 to the LSA Working Group for further consideration with a view to validating and prioritising the safety issues and barriers identified by the LSA Correspondence Group as a priority, and to prepare draft amendments to resolution MSC.402(96), subject to time permitting.

Proposed amendments to resolution MSC.402(96). The Sub-Committee considered document SSE 10/14/3 (United States), commenting on the report of the LSA Correspondence Group (SSE 10/14) and proposing amendments to resolution MSC.402(96) in order to clarify interpretations and improve implementation. In this context, the Sub-Committee considered, in particular, the draft amendments to resolution MSC.402(96), as set out in document SSE 10/14/3, and referred said document to the LSA Working Group for further consideration.

Annual and five-year thorough examinations. The Sub-Committee considered document SSE 10/14/2 (China), proposing amendments to resolution MSC.402(96) regarding annual and five-year thorough examinations. In the ensuing discussion, the Sub-Committee noted the following views:

- .1 the link between boat manufacturers and maintenance service providers ensure that they have access to original spare parts, maintenance instructions, which includes documentation and safety bulletins; and removing this link would raise legal questions about the liability of the service provider; and availability of the maintenance manuals on board ships which is normally checked by the surveyors, but not by the authorised service providers;
- .2 maintenance manuals are sufficiently addressed by SOLAS regulations III/20 and 36, therefore they do not need to be part of the resolution. However, if maintenance manuals are part of the resolution, presence of such documentation should only be confirmed and not reviewed;
- .3 exclusion of on-load or off-load release gear from makes and types of equipment in an authorisation document cannot be supported, as it could compromise a crucial safety aspect;
- .4 notwithstanding this view, excluding the release gear of a lifeboat from the make and type of equipment could be supported, however, the release gear of a rescue

boat is considered a general-purpose product and, therefore, such exclusion is not supported;

.5 technical requirements, such as safety standards for on-load sling, should be developed before inclusion in resolution MSC.402(96), for examinations and checks;

.6 the current annual examination is considered sufficient for sprinkler or air supply systems and, therefore, additional five-year thorough examination would cause an unnecessary burden; and,

.7 the document should be referred to the LSA Working Group for detailed consideration, as was the case, with a view to validating and prioritising the safety issues and barriers identified, as a priority, and to prepare draft amendments to the resolution, time permitting.

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

.1 noted the considerations of the Group concerning the issues related to resolution MSC.402(96), in particular the agreement of the Group that the definition of "make" and "type" therein had the highest priority;

.2 agreed to the justification for a new output on "Amendments to the 1994 and 2000 HSC Codes and the 1979, 1989 and 2009 MODU Codes to ensure the consistent application of resolution MSC.402(96)", with a view to endorsement by MSC 109; and,

.3 agreed to re-establish the Correspondence Group on Life-Saving Appliances (LSA) with draft terms of reference as developed by the Group.

15 AMENDMENTS TO THE LSA CODE FOR THERMAL PERFORMANCE OF IMMERSION SUITS

Background. The Sub-Committee recalled that SSE 9 had considered thermal performance of immersion suits and prepared draft amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), as well as consequential draft amendments to the Revised standardised life-saving appliance evaluation and test report forms (personal life-saving appliances) (MSC.1/Circ.1628), in relation to the low-temperature tolerance time threshold of test subjects, during thermal performance tests of the immersion suits. It was also recalled that MSC 107 had adopted resolution MSC.544(107), containing amendments to the Revised Recommendation (resolution MSC.81(70)), and had approved MSC.1/Circ.1628/Rev.1, incorporating consequential amendments to the revised test report forms therein.

Three documents were submitted wherein the Sub-Committee considered in particular:

- .1 the research conducted on thermal manikins and repeatability of results;
- .2 the proposal for creating a GISIS module with a list of laboratories recognised by Administrations; and,
- .3 whether the agenda item should either be placed on the provisional agenda of SSE 11, or closed at this session, with an option to place the agenda item back on the post-biennial agenda of the Committee, pending the completion of the ongoing work of ISO/TC 188/SC.1.

Following discussion, the Sub-Committee:

- .1 supported the outcome of the research, in general, and encouraged interested delegations to participate in the ongoing work of ISO/TC 188/SC 1;
- .2 agreed to retain the agenda item on the provisional agenda of SSE 11; and,
- .3 requested the Secretariat, subject to the availability of resources, to develop a GISIS module with a list of laboratories recognised by Administrations, which are able to conduct testing with a thermal manikin in accordance with the testing method of ISO 15027-3, and to report on the status of the development of the module at the earliest opportunity.

16 EVALUATION OF ADEQUACY OF FIRE PROTECTION, DETECTION AND EXTINGUISHMENT ARRANGEMENTS IN VEHICLE, SPECIAL CATEGORY AND RORO SPACES IN ORDER TO REDUCE THE FIRE RISK OF SHIPS CARRYING NEW ENERGY VEHICLES

The Sub-Committee recalled that MSC 105 had considered document MSC 104/15/19 (China), proposing an evaluation of the adequacy of fire protection, fire detection and fire extinction arrangements in vehicle, special category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles. MSC 105 had agreed to include in its post-biennial agenda an output on "Evaluation of adequacy of fire protection, detection and extinction arrangements in vehicle, special category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles", assigning the SSE Sub-Committee as the associated organ. It also instructed SSE to evaluate the applicability of the new measures to be developed to existing ships and to address the charging of electric vehicles on board ships. In addition, MSC 105 agreed that the instruments to be amended are SOLAS and the FSS Code, and that new guidelines for reducing the fire risk of ship's vehicle, special category and ro-ro spaces carrying new energy vehicles might need to be developed. The amendments should enter into force on 1 January 2028, provided that they are adopted before 1 July 2026.

Fire safety on board PCTC and PCC ships. The Sub-Committee considered document SSE 10/16 (Germany et al.), providing information on the experience gained from fire tests

and fire incidents, and further providing a number of proposals to support fire safety on board pure car and truck carrier (PCTC) ships and pure car carrier (PCC) ships. In the ensuing discussion, some of the more relevant views expressed are as follows:

- .1 a two-step approach is necessary for the proper consideration of the matter for existing and new ships, where, as a first step, measures for the existing fleet should be addressed as a matter of urgency. Directly embarking on regulatory modifications would not be of help for existing ships, as designing and introducing new equipment would take time. However, operational issues could be addressed for such ships. As a second step, the current regulations of SOLAS chapter II-2, and the FSS and 2010 FTP Codes should be looked into, in order to identify how new ships could be better regulated;
- .2 while the property of electric batteries and associated risks are already addressed in the transport provisions of the IMDG Code under the purview of the CCC Sub-Committee, SSE should focus on fire-fighting issues;
- .3 the risks associated with the transport of battery electrical vehicles (BEVs) could be different from the risks associated with conventional vehicles, but not necessarily higher, as one of the outcomes stated in the LASH FIRE project;
- .4 the scope of the submission needs to be clarified, as it refers to PCTC and PCC ships, which are not defined in SOLAS, unlike vehicle carriers as defined in SOLAS regulation II-2/3.56.
- .5 it is necessary to identify the causes of fire and the regulatory gaps first, before embarking on drafting amendments to SOLAS and the FSS Code;
- .6 it should be ensured that fixed fire-fighting systems would address both BEVs and conventional vehicles under all circumstances, so that any combination of fixed systems would not affect the overall efficiency, and it would be premature to confirm CO2 systems as a suitable method for BEV fires without sufficient testing;
- .7 the Sub-Committee should not prejudge the difference in the hazards emanating from different types of vehicles;
- .8 the suggested standard time frame of 14 minutes for the activation of the system after a fire alarm is considered very prescriptive and focus should be on improved detection and verification systems to enable early and reliable detection; with further measures considered for newbuilds;
- .9 emergency response procedures, crew training and equipment aspects need to be given priority and coordination with shore-based fire-fighting assets should also be taken into account;

.10 the matter should be discussed by the FP Working Group and the Group should be tasked to prepare a draft roadmap for efficient planning of the work on this agenda item; and,

.11 given the comprehensive work which is required, for which a three-year period has been agreed, 2027 being the target completion year, a roadmap for the output should be developed in order to structure the regulatory development.

The Sub-Committee supported the proposals contained in document SSE 10/16, in general, and invited interested Member States and international organisations to inform shipowners on the experience gained and lessons learned in order to raise awareness and to improve emergency response procedures in case of fire at sea, as well as at berth. It also instructed the FP Working Group to consider document SSE 10/16 and to examine the existing regulatory framework, in light of the issues identified in annexes 1 and 2 thereof, and to prepare a draft roadmap for an efficient planning of the work on this agenda item.

Proposed amendments to SOLAS regulation II-2/20. The Sub-Committee considered document SSE 10/16/1 (China), providing initial draft amendments to SOLAS regulation II-2/20, adding requirements for ships carrying lithium battery electric vehicles that took into account further research that had been carried out by China and the experience accumulated by the industry. Three Information papers were also submitted by China and in the ensuing discussion, the following views were expressed:

.1 other relevant sources of information should also be taken into account, in addition to those provided by the submitter, e.g. the outcome of the LASH FIRE project, as well as the information in documents SSE 9/INF.4 (Japan) and MSC 107/INF.5 (Interferry);

.2 it would be premature to consider the draft amendments presented in document SSE 10/16/1 before the existing regulatory framework has been thoroughly examined;

.3 a holistic approach should be taken by including other possible battery technologies in addition to lithium-ion batteries for electric vehicles;

.4 current testing provisions of water-based systems in *Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces* (MSC.1/Circ.1430/Rev.3) are considered efficient to fight BEV fires; and,

.5 the proposal follows a prescriptive approach whereas the Organisation is striving for a goal-based approach by defining goals and formulating respective functional requirements and expected performances.

Following consideration, the Sub-Committee instructed the FP Working Group to consider document SSE 10/16/1 and prepare a draft roadmap for efficient planning of the work on this agenda item.

ELBAS Project. The Sub-Committee noted the information contained in document SSE 10/INF.2 (Denmark), providing information on the ELBAS Project (Electric Vehicle Fires at Sea: New Technologies and Methods for Suppression, Containment, and Extinguishing of Battery Car Fires Onboard Ships), related to how fires in electrical driven cars could potentially be handled, and also providing relevant considerations in case such a fire should occur. The document was subsequently referred to WG 2 so that the outcome of the project could be taken into account, as appropriate, when examining the gaps and drafting amendments.

Report of the FP Working Group. Having considered the relevant part of the report of WG 2, the Sub-Committee:

.1 endorsed the road map and goal-based approach for effective consideration of fire safety system to reduce the fire risk of ships carrying new energy vehicles, including BEVs;

.2 encouraged Member States and international organisations to share their data of scientific reports and studies, new technologies, casualty reports and other available credible resources on fire incidents of new energy vehicles, including BEVs, to the correspondence group; and,

.3 agreed to re-establish the Correspondence Group on Fire Protection with the proposed terms of reference and to take action, as appropriate.

17 BIENNIAL STATUS REPORT AND PROVISIONAL AGENDA FOR SSE 11.

General. The Sub-Committee recalled that MSC 107 had agreed to include, in its post-biennial agenda, the following three new outputs:

.1 "Development of amendments to paragraph 2.1.2.5 of chapter 5 of the FSS Code on construction requirement for gaskets";

.2 "Review and update of the Code of Practice for Atmospheric Oil Mist Detectors"; and,

.3 Revision of the "*Revised guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing system*" to clarify the testing and inspection provisions for CO₂ cylinders.

18 ELECTION OF CHAIR AND VICE-CHAIR FOR 2025.

In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously elected Mr. Hironori Eguro (Japan) as Chair, and re-elected Mr.

Cristiano Aliperta (Palau) as Vice-Chair, both for 2025. The Sub-Committee expressed its appreciation to Mr. Umut Şentürk (Türkiye) for his excellent service during the last four terms of office when he served as Chair.

19 ANY OTHER BUSINESS.

Average mass of a person in conducting prototype self-righting tests for totally enclosed lifeboats. The Sub-Committee considered document SSE 10/19/1 (India), proposing to consider the average mass of a person to be 75 kg (for lifeboats intended for passenger ships) or 82.5 kg (for lifeboats intended for cargo ships) in the case of prototype self-righting test for totally enclosed lifeboats, with a view to amending the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 1, and the Revised standardised life-saving appliance evaluation and test report forms (Survival craft) (MSC.1/Circ.1630/Rev.2), as minor corrections.

Following discussion, the Sub-Committee concurred with the proposed modifications as minor corrections.

Retro-reflective materials. The Sub-Committee considered document SSE 10/19/2 (India), proposing to replace the reference to resolution A.658(16) with a reference to resolution MSC.481(102), regarding retro-reflective materials in various Revised standardised life-saving appliance evaluation and test report forms, as well as to add a few details in the forms intended for personal life-saving appliances, survival craft and rescue boats, as minor corrections. The Sub-Committee agreed to the proposals.

Test procedure and acceptance criteria for lifejacket buoyancy test. The Sub-Committee considered document SSE 10/19/3 (India), proposing amendments to resolution MSC.81(70) and MSC.1/Circ.1628/Rev.1, with a view to improving the procedure for lifejacket buoyancy tests and make acceptance criteria consistent with the LSA Code, as a minor correction. Following discussion, the Sub-Committee agreed, in principle, with the proposal. However, it concluded that more discussion is necessary and, therefore, instructed the LSA Correspondence Group to consider document SSE 10/19/3 for advice and action, as appropriate.

Expressions of condolence. The Sub-Committee noted with great sadness the recent passing of Mr. Jaideep Sirkar of the United States, the Vice-Chair of the SDC Sub-Committee and expressed its condolences to his family.

20 REPORT TO THE MARITIME SAFETY COMMITTEE.

The draft report of the session (SSE 10/WP.1) prepared by the Secretariat for consideration by the Sub-Committee was duly endorsed for approval by MSC.

End

Captain Paddy McKnight