

IMO SSE 9 Meeting Summary

March 15, 2023

The 9th session of the IMO’s Sub-Committee on Ship Systems and Equipment (SSE 9) was held 27 February – 3 March 2023 at the IMO Headquarters in London, supplemented by hybrid (online) participation.

Among others, LISCR participated in the following groups in addition to the plenary:

	Agenda item
WG 1	Working Group on life-saving Appliances
WG 2	Working Group on Fire Protection
DG 2	Drafting Group on Onshore Power Supply
EG 1	Experts Group on Revision of the Code of Safety for Diving Systems

Life-saving appliances

New requirements for ventilation of survival craft

The *MOL Comfort* incidents (2013) triggered this work as the crew escaped in a totally enclosed lifeboat and suffered dehydration from extreme temperature.

The 106th Session of the Maritime Safety Committee (MSC 106) approved draft amendments to the Life-saving appliances (LSA) Code to mandate ventilation of totally enclosed lifeboats and amendments to the *Revised recommendations on testing of life-saving appliances* (MSC.81(70)). The draft amendments are expected to enter into force on 1 January 2026 for totally enclosed lifeboats installed on or after 1 January 2029, subject to adoption by MSC 107 (June 2023).

In accordance with the instructions of MSC 106, SSE 9 considered any compelling need of applying ventilation requirements to partially enclosed lifeboats and liferafts.

Opinions were almost equally divided, with a slight majority that supports “no compelling need”. SSE 9 decided:

- The proposed package for the totally enclosed lifeboat ventilation (Amendments to the LSA Code, testing and reporting forms (MSC.1/Circ.1630/Rev.1)) should be finalized at MSC 107; and
- The remaining output on this agenda item should be kept for further discussion.

In conjunction with this decision, SSE 9 also decided:

- The ventilation testing requirements do not apply to the fast rescue boat; and
- The ventilation equipment, if fitted, on lifeboats or rescue boats, is subject to maintenance and test requirements presented in resolution MSC.402(96) on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats*.

Lowering speed of survival craft

According to chapter III of SOLAS, the fully loaded survival craft shall be launched within a period of 10 minutes after the abandon ship signal is given. This will result in greater lowering speed as ships grow bigger.

SSE 9 agreed with the minimum and maximum lowering speed as follows:

- Minimum speed: $S = 0.4 + 0.02H$, or 1.0, whichever is less
- Maximum speed: $S = 1.3$

H: Height in meters from the davit head to the waterline with the ship at the lightest sea-going condition.

S: Speed in meter per second.

The proposed amendments to the LSA code were agreed for approval by MSC 107 and subsequent adoption by MSC 108. The expected entry into force will be 1 January 2026.

Thermal performance of immersion suits

SSE 9 looked into the possible use of a manikin instead of a human test subject.

Accordingly, SSE 9 prepared the revision to the *Revised recommendations on testing of lifesaving appliances* (MSC.81(70)) and associated report forms presented in MSC.1/Circ.1628.

In-water performance of lifejackets

MSC 101 instructed the SSE Sub-Committee to address the issue of the lifejacket performance on righting and spray hood, i.e., an unconscious person's should be kept in the face-up position with mouth and nose above the water.

The key discussions were the impact of clothing and other buoyancy issues.

SSE 9 subsequently decided to revise:

- Chapter 2 of the LSA Code;
- Resolution MSC.81(70) on *Revised standardized life-saving appliance evaluation*; and
- the test report forms (personal life-saving appliances) (MSC.1/Circ.1628).

This set of amendments is expected to be approved by MSC 107 and subsequently adopted by MSC 108 for entry into force on 1 January 2026.

Unified interpretations

LED torches in survival craft

SSE 9 agreed on the following interpretations that will be used for the SOLAS and the HSC codes.

One spare bulb shall be provided for torches utilizing either a filament bulb or single LED to provide the light source. Where the light source is provided by more than one LED, a spare LED bulb is not required, provided the failure of any one LED does not prevent the other LED's from fully functioning.

Single fall/hook with on-load release only

MSC 106 could not conclude the technical details for the single fall/hook with off-load release capacity only in relation to re-setting arrangements because even off-load release hook has a simple re-setting mechanism (e.g. spring-loaded guard).

SSE 9 concluded that any hook shall not be able to support any load unless the hook is completely reset and agreed on the draft amendments to the LSA Code.

Revision of [MSC.402\(96\)](#) on certified personnel of lifeboat maintenance authorized service providers

The key discussion was the definition of make and type in authorizing the certified personnel. In addition, there were many submission papers on this issue, including questions

on the application to inflated rescue boats, whether or not to refer to the ISO standard (ISO 23678), applicability to the HSC Codes, MODU code etc.

SSE 9 agreed that to make progress, a proper work programme is needed and prepared a justification for the work for approval by MSC 107. In addition, subject to the approval of the new work programme, SSE 9 tasked the LSA correspondence group (CG) to address the issues on the make, type, and certification programme.

FIRE SAFETY

Protection of ro-ro spaces

SSE 9 agreed on the draft amendments to the SOLAS and FSS Code for application to new ships on or after 1 January 2026 and existing ships at the first survey on or after 1 January 2028. The key issues were:

- Side openings should not endanger escape and service spaces and control stations (new ships only) through the smoke and heat that may be emitted from the openings;
- installation of individually identifiable fire-detection and alarm systems (new and existing ships);
- Installation of video monitoring systems (new and existing ships);
- Weather decks where vehicles are carried should be protected with water monitors (new and existing ships)
- There should be a safe distance from accommodation spaces, control stations and normally occupied services spaces (new ships only);
- agreed to accept linear heat detection systems; and
- To revise MSC.1/Circ.1430/Rev.2 on clarification of the term "free height", i.e. to be the distance between deck plates (not deck to beam).

Fire protection of accommodation and service spaces and control stations

There were editorial inconsistencies in SOLAS regulation II-2/5.5. SSE 9 clarified the status of control stations and cargo control room by inserting "all control stations and cargo control room" in each fire protection method (IC, IIC and IIIC).

SSE 9 also concluded that, as no reference to control stations is made for cargo ships constructed before 1 January 2026 for any of the protection methods provided in accordance with SOLAS regulations II-2/7.5.5.1, 7.5.5.2 and 7.5.5.3 (i.e., IC, IIC and IIIC), control stations on these cargo ships do not need to be covered by a fixed fire detection and fire alarm system.

For passenger ships, the existing "alarm" in regulation II-2/5.2 was clarified as "fire alarm".

SSE 9 prepared amendments to the SOLAS regulation II-2/7.5.5 and revision to MSC.1/Circ.1456 on *Unified interpretations of SOLAS Chapter II-2 and the FSS and FTP Codes* for approval by MSC 107 and subsequent adoption by MSC 108. Expected entry into force is on 1 January 2026.

Unified interpretations

Hazard area classification

SSE 9 agreed to revise MSC.1/Circ.1557 to update the reference of the IEC 60092-502 to 1999 version and specify where two instruments are not aligned, SOLAS and other relevant IMO instruments should take precedence and be applied.

Separation of ducts from spaces

SSE 9 agreed that the interpretation, which provides 450mm extension of the insulation from the edges of the duct in accordance with SOLAS regulation II-2/9.7.5. The amendments delete the term “galley exhaust” so that the unified interpretation refers to a duct from any space.

PFOS ban

MSC 106 approved draft amendments to SOLAS chapter II-2, the HSC Codes with regard to the prohibition of perfluorooctane sulfonic acid (PFOS) fire-extinguishing media used in fire-fighting foams, with a view to adoption at MSC 107.

Additionally, MSC 106 instructed SSE 9 to further consider:

- the prohibition of other fire-fighting foam types, such as perfluorooctanoic acid (PFOA); and
- the potential need to revise MSC.1/Circ.1312 on *Revised guidelines for the performance and testing criteria, and surveys of foam concentrates for fixed fire-extinguishing systems*.

There was a proposal to further revise the draft amendments to SOLAS chapter II-2, the 1994 and 2000 HSC Codes, to replace the term PFOS (perfluorooctane sulfonic acid) with PFAS (fluorinated substances that contain at least one fully fluorinated methyl or methylene carbon atom), which shall facilitate a complete ban on all fluorine-containing PFAS chemicals.

SSE 9, however, could not agree with the proposal at this stage, as alignment with the Stockholm Convention and availability of the alternatives required careful consideration.

The issue will be further considered at the next session. The continued discussion will address all relevant fire-fighting foam types.

lithium-ion-battery-powered vehicle fires

SSE 9 noted the following information:

- A brief report of a fire test using a Battery Electric

Vehicle (BEV) powered by Lithium-ion batteries (LIB); and

- Supplementary information 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.

Diving System Safety

The IMO was working to enhance diving safety by amending *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 revision also includes evacuation of divers in the saturation chamber if something goes wrong with the diving support vessel (so called hyperbaric evacuation).

The new Code would be a non-mandatory MSC resolution with a target effective date of 1 January 2024. Any diving system being constructed at that time will not be subject to the Code.

For the existing diving systems, the 1995 Code (resolution A.831(19)) will remain applicable.

The implementation guidance had existed as a separate guidance, which is now incorporated as an appendix to the Code.

With regard to the corporation with the Search and Rescue authorities, SSE 9 agreed that it resided outside of the output and invited interested Members States to submit a new work programme proposal.

The certification scheme consists of part I (which includes the launching platform of the diving systems) and part II (for the diving systems).

The Code also stipulates surveys after delivery of the system and also stresses integration into the safety management systems under the ISM Code.

UNIFIED INTERPRETATIONS

For the unified interpretations of life-saving appliances and fire safety, refer to the respective sections above.

Engineering/electrical issues

Reliability of single essential propulsion components - electric machines

SOLAS regulation II-1/26 requires the Administration to give special consideration to the reliability of single essential propulsion components.

SSE 9 agree on the following interpretations:

- Single electric propulsion motors (both single and dual winding with a single rotor) for main propulsion should not be considered to provide the reliability required for a single essential propulsion component. A separate propulsion unit sufficient to give the ship a navigable speed should be required for such arrangements.
- Propulsion arrangements with two independent rotors on a single shaft should be considered to provide the required reliability, provided it is possible to de-excite or de-flux each of the rotors individually and to supply independently the stators.
- The reference to IEC 62613-1:2019, which was finally agreed to be removed. This was done to avoid any conflict between the other versions and standard fittings on different ship types. IEC/IEEE 80005 1:2019 has been retained, which provides clarity on general requirements, port connections etc. which is the one applicable for the OPS guidelines;
- This will not cause any ship-port compatibility issues as it is addressed in IEC/IEEE 80005 1:2019: Utility connections in port – Part 1: High Voltage Shore Connection (HVSC) Systems – General requirements; and
- The IMO’s work was completed based on IEC 2019 guidelines but in 2022, IEC released a newer version. For that reason, reference to the 2019 version was deliberately kept.

Onshore power supply (OPS) service

SSE 7 in 2020 had developed the draft interim guidelines for approval as an MSC circular, including pre-communication with terminals before arrival and compatibility assessment, as well as documents needed onboard. However, MSC 103 sent the matter back to SSE 8.

SSE 9 finalized the draft MSC Circular on the *Interim guidelines on safe operation of onshore power supply (OPS) service in port for ships engaged on international voyages* for approval by MSC 107. Key issues resolved by SSE 9 were:

- Safety measures (lock out/tag) for the maintenance work were clarified;
- The High and the Low voltage definition was removed from the draft guidelines (as it was referencing IEC) so that there is no confusion and STCW definition is followed;

FURTHER INFORMATION

For further information please contact: imo@liscr.com

SSE 9 – Summary of Major Decisions

PROVISIONAL LIST OF DRAFT RESOLUTIONS AND CIRCULARS

- Draft Amendments to SOLAS (Ro-ro safety, Fire control station)
- Draft Amendments to the LSA Code (Lowering speed of survival craft, lifejacket, single fall hook,)
- MSC 402 (106) on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats*
 - (ventilation of lifeboat, if fitted)
- Draft Amendments to the revised recommendation for the testing of life-saving appliances (Resolution MSC.81(70)) (Rescue boat, Immersion suits and lifejackets)
- Draft Amendments to the revised standardized life-saving appliance evaluation and test report forms (MSC.1/Circ.1628) (Immersion suits and lifejackets) MSC.1/Circ.1630/Rev.1)) (Lifeboat ventilation)
- Draft Amendments to the FSS Code
- Draft amendments to MSC.1/Circ.1276 on *United Interpretations of SOLAS Chapter II-2*
- MSC.1/Circ.1430 on *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.1456 on *Unified Interpretations of SOLAS Chapter II-2 and the FSS and FTP Codes.*
- MSC.1/Circ. 1557 on hazardous area classification (application of SOLAS regulation II-1/45.11)
- MSC circular on Unified interpretations of SOLAS chapter II-1 (redundancy of the electric propulsion motor)
- MSC circular on Unified interpretations of the LSA Code, the 1994 and 2000 HSC Codes (LED torches)
- MSC circular on Revised hazardous area classification (application of SOLAS regulation II-11/45.11),
- MSC circular on Revised unified interpretations of SOLAS chapter II-2 (Duct)
- International Code of Safety for Diving Operations, 2023 (2023 Diving Code)
- interim guidelines on the safe operation of onshore power supply (OPS) service in port