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IMO Ship Systems and Equipment Ninth Session (SSE 9)

Summary Report

Executive Summary

Below are some of the changes to current requirements which were discussed at SSE 9. Details on these can be found under the relevant subject headings in the document.

- SSE 9 considered if there is compelling evidence to extend the [requirements for the ventilation of totally enclosed lifeboats](#) to partially-enclosed lifeboats and liferafts but could not agree and has deferred the decision until SSE 10 (March 2024). Clients should note that amendments to the Life-Saving Appliances (LSA) Code and the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)) on new requirements for the ventilation of survival craft) were approved by MSC 106 for totally enclosed lifeboats only. These amendments are expected to enter into force 1 January 2026.
- SSE 9 finalised the draft amendments to the LSA Code and resolution MSC.81(70) regarding the testing of lifejackets to address the [in-water performance of SOLAS lifejackets](#). The draft amendments are expected to enter into force 1 January 2026.
- SSE 9 agreed to expand the work on [the use of fire-fighting foams containing perfluorooctane sulfonic acid \(PFOS\)](#) to include other fluorinated foams, and as such, it will remain on the agenda for SSE 10. Clients should note that MSC 106 approved amendments to SOLAS chapter II-2, the 1994 HSC Code and the 2000 HSC Code to prohibit the use of fire-fighting foams containing perfluorooctane sulfonic acid (PFOS). The amendments are expected to enter into force 1 January 2026 and will apply to both fixed and portable systems.
- SSE 9 finalised the amendments to SOLAS regulation II-2/7.5.5, together with the associated draft MSC resolution addressing [fire protection of control stations and cargo control rooms on cargo ships](#) for submission to MSC 107 for approval and subsequent adoption at MSC 108. Once adopted, the amendments are expected to apply to ships constructed on or after 1 January 2026. Ships constructed before 1 January 2026 shall comply with the current requirements.

Introduction

SSE 9 took place 27 February – 3 March 2023. This briefing summarises the discussions which are significant to Lloyd's Register's work with our customers.

Additional Information

Lloyd's Register's [SSE 9 Agenda Preview](#)

Lloyd's Register contributed to the work in the following working groups:

- Life-saving appliances
- Fire protection

Life-Saving Appliances (LSA)

Additional Information

Lloyd's Register's [SSE 8 Summary Report](#)

New requirements for the ventilation of survival craft

Clients should note that MSC 106 approved draft amendments to the **LSA Code and MSC.81(70) Revised recommendation on the testing of life-saving appliances for the ventilation of totally enclosed lifeboats**. The draft requirements ensure that a totally enclosed lifeboat will admit sufficient air at all times to prevent a long-term CO₂ concentration of more than 5,000 ppm for the number of persons the lifeboat is permitted to accommodate, with the entrances closed. The amendments are expected to be adopted at MSC 107 (June 2023) and to enter into force 1 January 2026. They will apply to all totally enclosed lifeboats installed on or after 1 January 2029.

SSE 9 considered whether there is sufficient evidence to support a compelling need to extend the requirements to partially enclosed lifeboats and liferafts but were unable to agree. This issue has been deferred to SSE 10 (March 2024) for further discussion.

Draft revisions to MSC.1/Circ.1630 Revised standardized life-saving appliance evaluation and test report forms (survival craft)

SSE 9 agreed to draft amendments to MSC.1/Circ.1630 in support of the draft amendments to the LSA Code.

Draft amendments to resolution MSC.81(70) Revised recommendation on testing of life-saving appliances

SSE 9 agreed to amendments to the draft test requirements for rigid, inflated and rigid/inflated fast rescue boats (FRBs) in paragraphs 7.4.1 and 7.5, to exempt them from the test requirements for the ventilation of survival craft.

Draft amendments to resolution MSC.402(96) Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear.

SSE 9 also agreed to include 'ventilation system, where fitted' to paragraph 6.2.3.

The amendments to the foregoing are expected to be approved at MSC 107 for subsequent adoption at MSC 108 and expected entry into force 1 January 2026, in support of the already approved amendments to the LSA Code and MSC.81(70) *Revised recommendation on the testing of life-saving appliances for the ventilation of totally enclosed lifeboats.*

Development of amendments to the LSA Code to revise the lowering speed of survival craft and rescue boats for cargo ships

Draft MSC resolution on Amendments to the Life-Saving Appliance Code (paragraph 6.1.2.8 & 6.1.2.10)

Currently the minimum lowering speed of survival craft and rescue boats as per paragraph 6.1.2.8 of the LSA Code can be expressed with the following figure in relation to the launching height, i.e. the height from the davit head to the waterline with the ship at the lightest sea-going condition.

'6.1.2.8 The speed at which the fully loaded survival craft or rescue boat is lowered to the water shall not be less than that obtained from the formula:

$$S = 0.4 + 0.02H$$

where S is the lowering speed in metres per second and H is the height in metres from the davit head to the waterline with the ship at the lightest sea-going condition.'

However, in recent years, larger cargo ships are under construction and the launching heights of some types of cargo ships are envisaged to be higher in the near future, e.g. 35m in the case of a 20,000 TEU containership, where 1.1 m/s is required as the minimum lowering speed.

When the launching height becomes so high, it will be difficult to adjust the lowering speed of survival craft and rescue boats within a narrow range such as 1.1 to 1.3 m/s.

SSE 9 agreed to revise paragraphs 6.1.2.8 and 6.1.2.10 of the LSA Code thus (xxx = additions ~~xxx~~ = deletions):

"6.1.2.8 The speed at which the fully loaded survival craft or rescue boat is lowered to the water shall not be less than that obtained from the formula:

$$S = 0.4 + 0.02H, \text{ or } 1.0, \text{ whichever is less}$$

where:

S is the lowering speed in metres per second and

H is the height in metres from the davit head to the waterline with the ship at the lightest sea-going condition."

The existing paragraph 6.1.2.10 is replaced by the following paragraph:

"6.1.2.10 The maximum lowering speed shall be established by the Administration 1.3 m/s. The Administration may accept a maximum lowering speed other than 1.3 m/s, having regard to the design of the survival craft or rescue boat, the protection of its occupants from excessive forces, and the strength of the launching arrangements taking into account inertia forces during an emergency stop. Means shall be incorporated in the appliance to ensure that this speed is not exceeded."

Application: The amendments are expected to be approved at MSC 107 for subsequent adoption and entry into force 1 January 2026. The amendments will apply to both cargo and passenger ships although there will be no impact on passenger ships as they already have a davit height limitation in SOLAS regulation III/24.

Revision of SOLAS chapter III and the LSA Code

IMO has previously agreed to revise SOLAS chapter III and the LSA Code using a goal-based framework based on the safety objectives, functional requirements and expected performance criteria.

SSE 7 developed the following action plan and a framework to identify a broader spectrum of risks and hazards and remove gaps, inconsistencies, and ambiguities in SOLAS chapter III and the LSA Code:

- Review of previous work
- Hazard identification
- Drafting of goals
- Drafting of functional requirements
- Analysis of gaps, inconsistencies and ambiguities
- Drafting of prescriptive regulations

SSE 9 continued the work on the revision of SOLAS chapter III and the LSA Code and considered the outcomes of the Hazard Identification (HazId) Workshop on LSA and agreed that, in principle, the approach used during the HazId is a suitable tool to provide the necessary hazards and subsequent risks as a basis for the further work on functional requirements and prescriptive regulations.

To date, as part of this agenda item, the following technical submissions proposing amendments to prescriptive requirements in SOLAS chapter III and/or the LSA Code have been submitted and categorised as follows:

Submissions considered urgent and to be resubmitted as a proposal for a new output:

- Draft amendments to the carriage requirements for new passenger and cargo ships to be equipped with automatically self-righting or canopied reversible liferafts.
- Amendments to clarify the requirements for free-fall lifeboat safety harnesses.
- A proposal to amend SOLAS regulation III/19 to add a training requirement for the donning of immersion suits in abandon ship drills.

Submissions postponed to be considered at a future session:

- Additional technical requirements for wire rope used in launching appliances for survival craft and rescue boats.
- Consideration of an increase to the minimum seating width for new lifeboats.
- Proposal for the exemption of oil platforms under the MODU Code from what could be substantial amendments to SOLAS chapter III and the LSA Code.

The work will be carried forward through an Intersessional Experts Group which will report to SSE 10.

Development of amendments to the LSA Code for the thermal performance of immersion suits

Draft MSC resolution on amendments to resolution MSC.81(70) Revised Recommendation on the testing of life-saving appliances

Draft amendments to MSC.1/Circ.1628 Revised Standardized Life-Saving Appliance Evaluation and Test Report Forms (Personal Life-Saving Appliances)

IMO first considered this work in 2008 but agreed to defer the development of any amendments pending the outcome of practical work that was considered necessary, including the determination of suitable thermal resistance criteria, and the finalisation and validation of testing methodology.

SSE 9 agreed to draft amendments to resolution MSC.81(70) to include a 15 minutes time frame so that a test would be stopped if the falling rate of the core temperature is more than 1.5 degrees C per hour after the first half hour, if the skin temperature of the hand, foot or lumbar region should fall below 10 degrees C for more than 15 minutes.

SSE 9 considered that it was premature to include reference to mechanical water stirring systems and also agreed that the use of thermal manikins in lieu of human subjects for testing is already allowed in MSC.81(70).

The amendments will be referred to MSC 107 for adoption.

Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets

Draft MSC resolution on amendments to the Life Saving Appliance Code

Draft MSC resolution on draft amendments to resolution MSC.81(70) Revised Recommendation on the testing of life-saving appliances

After the deaths of three seafarers while wearing SOLAS lifejackets in favourable environmental conditions, the subsequent enquiries have shown that the current requirements for the design and testing of SOLAS lifejackets do not provide consistent assurance of their in-water performance.

The investigation was primarily tasked with reviewing the capability of a SOLAS lifejacket to keep a person's airways clear of the water. In tests, several did not turn to clear the airways from the water surface.

SSE 9 finalised the draft amendments to the LSA Code chapter 2 and the *Revised Recommendation on the testing of life-saving appliances* (MSC.81(70)).

The draft amendments are designed to ensure that the lifejacket will turn the body of an unconscious person to a face-up position where the nose and mouth are both clear of the water.

SSE 9 decided not to include a requirement for lifejackets to maintain a minimum buoyancy of 150 Newtons for the duration of the buoyancy test. They also agreed not to include a requirement for a retention device.

Subject: In-water performance of SOLAS lifejackets

Impact: Minimum performance standards for SOLAS life jackets will be improved so lifejacket design may need to be changed to meet the new performance standards

Application: Applicable to the testing of new SOLAS lifejackets, not expected before 1 January 2026

The draft amendments to the **Revised Recommendation on the testing of life-saving appliances (MSC.81(70))** includes changes to the buoyancy test, shoulder lift test and the righting test.

Application: The amendments to the LSA Code and MSC.81(70) regarding the testing of lifejackets are expected to be approved at MSC 107 and adopted at MSC 108 and are expected to enter into force 1 January 2026.

Amendments to the LSA Code concerning single fall and hook systems with on-load release capability

Additional Information

Lloyd's Register's [MSC 106 Summary Report](#)

Lifeboats and rescue boats with single fall and hook systems face a similar risk of potential accidental release during recovery operations as those with twin fall and hook systems. As these systems are used and tested in a similar way as twin fall lifeboats, they should have similar safety standards.

SSE 7 agreed to amend paragraph 4.4.7.6.17 of the LSA Code to address the issue, however, it has since been noticed that an unforeseen consequence of deleting reference to paragraph 4.4.7.6.8 from paragraph 4.4.7.6.17 of the LSA Code is that paragraph 4.4.7.6.8 would now apply to off-load hooks as well which is not appropriate for some very mechanically simplistic off-load hooks with few moving parts.

SSE 9 agreed to an additional amendment to paragraph 4.4.7.6.8 of the LSA Code (xxx = additions xxx = deletions):

".8 to prevent an accidental release during recovery of the boat, the hook shall not be able to support any load unless the hook is completely reset. ~~either the hook shall not be able to support any load, or~~ In the case of a hook which is capable of releasing the lifeboat or rescue boat with a load on the hook when it is not fully waterborne, the handle or safety pins shall not be able to be returned to the reset (closed) position, and any indicators shall not indicate the release mechanism is reset, unless the hook is completely reset. Additional danger signs shall be posted at each hook station to alert crew members to the proper method of resetting.

Application: Once approved, the amendments will apply to ships where a single fall and hook system is used for launching a lifeboat or rescue boat from a date yet to be decide. If agreed at this session the amendments are expected to enter into force 1 January 2026.

Unified Interpretations (LSA)

This is a continuous agenda item which appears under each technical sub-committee where unified interpretations (UIs) are considered.

SSE 9 agreed to the following unified interpretation:

Draft MSC circular on Unified interpretation on liferaft, lifeboat and rescue boat equipment in the LSA Code, and the 1994 and 2000 HSC Codes

The LSA Code and the 1994 and 2000 HSC Codes require that the equipment carried in a liferaft should include a waterproof torch together with one spare set of batteries and one spare bulb in a waterproof container. This

unified interpretation reflects current technology and clarifies the use of light emitting diode (LED) torches.

The draft MSC circular is expected to be approved at MSC 107.

SSE 9 agreed in principle to the following unified interpretation and referred them to the LSA correspondence group for further consideration:

Clarification of paragraph 6.1.2.2 LSA Code

SSE 9 agreed in principle to a unified interpretation clarifying paragraphs 6.1.1.3 and 6.1.2.6 of the LSA Code which allow manual hoisting-up of the dedicated rescue boat from its stowed position for subsequent slewing out by stored mechanical power. However, it was considered that more technical consideration was needed.

SSE 9 did not agree to the following:

Draft unified interpretation of SOLAS regulation II-1/41.6 (Safety arrangements for supplementary lighting in all cabins of passenger ships)

Supplementary lighting is required to be provided in all cabins to clearly indicate the exit so that occupants will be able to find their way to the door in an emergency. However, SSE 9 did not agree that supplementary lighting should apply only to passenger ships and passenger accommodation as suggested by the proposed UI and clarified that it includes crew accommodation as well.

Revision to Unified interpretation of paragraph 1.2.2.6 of the LSA Code concerning lifeboat exterior colour (MSC.1/Circ.1423)

Paragraph 1.2.2.6 of the LSA Code requires life-saving appliances to 'be of an international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea'. SSE 9 did not agree with the proposed amendments to **Unified Interpretation of Paragraph 1.2.2.6 of the LSA Code Concerning Lifeboat Exterior Colour (MSC.1/Circ.1423)** to define the extent to which the canopy of partially enclosed lifeboats should be of a highly visible colour and instead agreed that the issue should be addressed through a new output.

Any Other Business (LSA)

Issues pertaining to resolution MSC.402(96) Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear

MSC 96 adopted MSC.402(96) *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, which entered into force 1 January 2020.

Since resolution MSC.402(96) entered into force the definitions and terms used in the resolution (namely 'make' and 'type') have been variously interpreted by key stakeholders which has led to confusion and disruption. ISO has also published the ISO 23678:2022 (series) to provide standards which are intended to support a consistent, reliable, and standardised approach to the certification of servicing technicians.

SSE 9 agreed to request a new output for a comprehensive review of resolution MSC.402(96). The request for a new output will go to MSC 107 for approval with the recommendation that MSC 107 could forward it directly to the intersessional LSA correspondence group so that they can begin the work prior to SSE 10.

Under this agenda item, SSE 9 also considered the following:

Maintenance and inspection of suspension parts used with survival craft launching systems

SSE 9 discussed concerns regarding the maintenance of specific parts used with survival craft launching systems including suspension parts, such as master links, turnbuckles or suspension chains and options to address the issue including possible amendments to SOLAS Chapter III and the LSA Code.

After a short discussion, SSE 9 agreed that this was an important issue which should be addressed through amendments to SOLAS chapter III through a request for a new output to MSC 108.

Proposal on updating the references to ISO standard 12402-7:2020 in resolution MSC.81(70)

SSE 9 agreed to update the ISO standard references to ISO 12402-7:2020 (Personal flotation devices - Part 7: Materials and components - Safety requirements and test methods) in resolution MSC.81(70) as a minor amendment. This will go to MSC 107 for adoption.

Fire Protection (FP), Detection and Extinguishing

Additional Information
Lloyd's Register's [SSE 8 Summary Report](#)

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

Draft MSC resolution on amendments to SOLAS chapter II-2

Draft MSC resolution on amendments to the Fire Safety Systems Code

MSC 98 approved the scope of work and the work plan for the review of SOLAS chapter II-2 and associated codes regarding ro-ro spaces and special category spaces of new and existing ro-ro passenger ships based on the findings of the FIRESAFE II study.

It should be noted that IMO issued the *Interim guidelines for minimizing the incidence and consequences of fires in ro-ro spaces and special category spaces of new and existing ro-ro passenger ships* (MSC.1/Circ.1615) pending changes to SOLAS to address the risks related to ro-ro passenger ships.

Clients should note that SSE 8 agreed the following:

The draft amendments to SOLAS chapter II-2 for **new and existing** ro-ro passenger ships which include, but are not limited to:

- Individually identifiable smoke and heat detector systems for open and closed vehicle ro-ro spaces.
- Fire detection requirements for weather decks.
- Video monitoring on vehicle spaces, open and closed ro-ro spaces and special category spaces.

Subject: Minimising the incidence and consequences of fires in ro-ro spaces and special category spaces

Impact: Equipment installation requirements updated for both new and existing ships

Application:
New ships from the date of entry into force (1 Jan 2026)
Existing ships from 1 January 2028

In addition, the following were agreed for **new** ro-ro passenger ships:

- Fixed water-based fire-extinguishing systems to protect weather decks primarily using water monitor(s), with nozzles being acceptable for areas which monitors could not cover. Detailed specifications for nozzles are also included as well as water supply capacity.
- Changes to structural fire protection of ro-ro and special category spaces including the protection from openings which is extended to include access to embarkation and assembly stations, as well as intakes for machinery.
- Openings in ro-ro spaces provided with closing devices such as steel A-class ramps and steel A-class doors should be permitted below survival craft and accommodation spaces (including service spaces and control stations).

SSE 9 agreed draft amendments covering the following:

- Arrangement of openings in ro-ro and special category spaces on new ro-ro passenger ships
- Arrangement of the weather deck on new ro-ro passenger ships
- Water monitors for protection of the weather deck on existing ro-ro passenger ships
- Installation of linear heat detectors

The draft amendments to SOLAS chapter II-2 are expected to be approved at MSC 107 for subsequent adoption and entry into force on 1 January 2026.

SSE 9 also considered applicable test standards for heat detectors and linear heat detectors in the FFS Code and agreed to specify the relevant EN 54 and IEC standards, whilst alternative standards could be accepted by the Administration. The draft amendments are also expected to be approved at MSC 107 for subsequent adoption and entry into force on 1 January 2026.

Application: The amendments to SOLAS chapter II-2 are expected to enter into force 1 January 2026 and will be applicable to new ro-ro passenger ships from 1 Jan 2026 and to existing ro-ro passenger ships from 1 January 2028. The amendments to FSS Code will be applicable to ships constructed on or after 1 January 2026.

Definition of the term ‘free height’

Draft amendments to 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.2)

SSE 9 agreed to draft amendments to MSC.1/Circ.1430/Rev.2 changing the term “free height” to “height of protected space” with the following definition:

"2.19 *Height of the protected space* is the distance between the lower deck plate and upper deck plate within a protected space."

The draft amendments are expected to be approved at MSC 107. Once approved the revised circular will be disseminated as MSC.1/Circ.1413/Rev.3.

Application: The revised guidelines should be used when approving fixed water-based fire-fighting systems for ro-ro spaces and special category spaces installed on or after 1 January 2024.

Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of containerships

SSE 8 began the work to develop relevant and goal-based draft amendments to SOLAS chapter II-2 and the

FSS Code to enhance provisions for early fire detection and effective control of fires in containerised cargoes stowed on and under deck of containerships using the following roadmap:

- Identification of hazards
- Risk analysis
- Identify risk control options
- Cost benefit assessment
- Recommendations for decision making

For completeness, gaps in all relevant and associated IMO instruments and associated documents will also be identified and resolved.

In view of the complex nature of the issues, MSC 106 established a Formal Safety Assessment (FSA) Experts Group to review any relevant FSA studies concerning the detection and control of fires in cargo holds and on the decks of containerships. This group will report directly to a future session of SSE.

As agreed at previous sessions, following the review of the FSA Experts Group report, SSE will undertake in depth consideration of:

- A fixed water monitor for control of fire on the cargo deck of containerships
- A video fire detection system for on deck cargo area of containerships
- Portable infrared thermal imagers and thermometers, and
- Draft guidelines for the design, performance, testing and approval of water mist lance systems.

Development of amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 addressing fire protection of control stations on cargo ships

Draft MSC Resolution on Amendments to SOLAS chapter II-2/7.5.5

Draft amendments to MSC.1/Circ.1456 Unified interpretations of SOLAS chapter II-2 and the FSS and FTP Codes

MSC 101 agreed to a proposal to develop amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 addressing fire protection of control stations on cargo ships.

SSE 9 finalised draft amendments to SOLAS chapter II-2/7.5.5 and consequential amendments to MSC.1/Circ.1456 with respect to the protection of control stations and cargo control rooms on cargo ships where a fire detection and alarm system is required.

The draft amendments to SOLAS chapter II-2/7.5.5 add the term ‘and in all control stations and cargo control rooms’ to all three of the allowed methods in paragraphs 5.5.1; 5.5.2 and 5.5.3.

5.5.1 – Method IC requires a fixed fire detection and fire alarm system

5.5.2 – Method IIC requires an automatic sprinkler, fire detection and fire alarm system of an approved type complying with the relevant requirements of the Fire Safety Systems Code

5.5.8 – Method IIIC requires a fixed fire detection and fire alarm system.

Subject: Amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 in respect of control stations on cargo ships

Impact: New cargo ships will need to ensure that the appropriate fire protection system is in place in all control stations and cargo control rooms

Application: Expected to apply to new cargo ships constructed on or after the date of entry into force expected 1 January 2026

Application: Once approved and adopted the amendments are expected to apply to new cargo ships constructed on or after the expected entry into force date of 1 January 2026. Ships constructed before the expected date of entry into force will need to comply with the current requirements of paragraph 5.5.

Development of provisions to prohibit the use of fire-fighting foams containing perfluorooctane sulfonic acid (PFOS) for fire-fighting on board ships

Additional Information

Lloyd's Register's [MSC 106 Summary Report](#)

Clients should note: MSC 106 approved draft amendments to **SOLAS chapter II-2, the 1994 HSC Code and the 2000 HSC Code prohibiting PFOS fire-extinguishing media used in fire-fighting foams**, due to its toxic nature. The prohibition applies to both fixed and portable systems as the intent is to prohibit the use of all extinguishing media containing PFOS that can be used in fire extinguishing systems and equipment. The amendments are expected to be adopted at MSC 107 and will enter into force 1 January 2026.

Application: The new requirements will be applicable to new and existing ships not later than the date of the first survey. In accordance with MSC.1/Circ.1290 the term 'first survey' means the first annual survey, the first periodical survey or the first renewal survey of the PSSC, CSSC, SEC or HSCSC, whichever is due first after the date of entry into force. For a ship under construction where the keel is laid before, but the ship is delivered after, 1 January 2026, the initial survey is the "first survey".

Draft amendments to the Revised guidelines for the performance and testing criteria, and surveys of foam concentrates for fixed fire-extinguishing systems (MSC.1/Circ.1312)

SSE 9 briefly considered consequential amendments to MSC.1/Circ.1312 in support of the draft amendments to SOLAS chapter II-2 prohibiting fire-fighting foams containing PFOS. However, due to time constraints and a lack of technical experts on this topic, it was recommended that the sub-committee re-establish the Correspondence Group on Fire Protection in order to finalise the draft amendments to MSC.1/Circ.1312.

Application: Once finalised the revised guidelines are expected to apply to foam concentrates installed on or after 1 January 2026. Foam concentrates type approved in accordance with MSC.1/Circ.1312 are expected to be permitted to remain in service provided they do not contain PFOS.

SSE 9 also agreed to revise the title of the existing output to "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" to expand the scope of the output to include other fluorinated foams and to continue the discussion at SSE 10 (March 2024).

Unified Interpretations (FP)

This is a continuous agenda item which appears under each technical sub-committee where unified interpretations (UIs) are considered.

Subject: Prohibition of the use of PFOS in fire-fighting foams

Impact: Fire fighting foams containing PFOS will be prohibited, and any substances containing PFOS will need to go to appropriate shore reception facilities

Application: New and existing ships not later than the date of the first survey after the date of entry into force which is expected to be 1 January 2026

SSE 9 agreed to the following unified interpretations:

Draft amendments to MSC.1/Circ.1276 Unified interpretations of SOLAS chapter II-2

SSE 9 agreed to draft amendments to the unified interpretation contained in MSC.1/Circ.1276 on *Unified interpretations of SOLAS chapter II-2*, originally developed to address requirements for separation of galley exhaust ducts from the spaces they pass through to align it with SOLAS. The amendments delete the term 'galley exhaust' so that the unified interpretation refers to the 'separation of ducts from spaces' rather than specifically to galley exhaust ducts.

The revised circular is expected to be approved by MSC 107 as MSC.1/Circ.1276/Rev.1

SSE 9 also considered if the reference to ISO standard ISO 15371:2009 under SOLAS regulations II-2/9.7.5.1.1.3, II-2/9.7.5.2.4 and II-2/10.6.4.1 should be replaced with the appropriate latest edition of ISO 15371. However, noting that the standard is currently under review by ISO, it was agreed that this should be deferred until that work was completed.

Draft amendment to MSC.1/Circ.1557 Unified interpretation of SOLAS regulation II-1/45.11

In light of information from IEC that the review of IEC 60092-502:1999 is still in progress and may require a considerable time to complete, a small amendment to the *Unified interpretation of SOLAS regulation II-1/45.11* (MSC.1/Circ.1557) was agreed. The amendment deletes '1999' from the IEC Standard reference. In order to facilitate future revisions which may require design changes to be applied only to new ships, the SOLAS/IBC/IGC requirements which are no longer applicable to new ships are also deleted.

SSE 9 agreed in principle to the following unified interpretations and referred them to the Fire Protection correspondence group for further consideration:

Clarification of SOLAS regulation II-2/13.4.2 relating to the means of escape from the steering gear space on cargo ships

SSE 6 did not agree to a proposed draft revision of IACS unified interpretation UI SC269 (Rev.2) on the application of SOLAS regulation II-2/13.4.2 regarding the means of escape from the steering gear space in cargo ships and advised further revision was necessary. This new proposed text removes reference to a "direct access to the open deck" and clarifies the application as follows:

'The dispensations allowed in the last sentence of SOLAS regulation II-2/13.4.2.2 – *Dispensation from two means of escape* - and by SOLAS regulation II-2/13.4.2.3 - *Escape from machinery spaces other than those of category A* - should apply regardless of ship's size'.

Draft unified interpretation 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

SSE 9 agreed in principle to a draft unified interpretation 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 has been developed to address the possible release of inflammable vapours into non-hazardous closed spaces but also agreed that further technical consideration was required.

Proposed unified interpretation of the testing requirements for the floor covering materials.

SSE 9 considered a revision to the *Unified interpretations of SOLAS Chapter II-2, the FSS Code, the FTP Code and related fire test procedures* (MSC/Circ.1120) to clarify the requirements applicable to the floor covering

materials used for floors in passenger and cargo ships as per SOLAS regulation II-2/6 (smoke generation potential and toxicity). The proposed revision requires that all paints, varnishes and other interior finishes used on all surface coverings (including floor coverings) should be tested according to part 2 of annex 1 to the 2010 FTP Code. However, SSE 9 agreed that further technical consideration was required in the intersessional correspondence group.

Proposed interpretation of paragraph 2.2.3.1.2 of chapter 15 of the FSS Code relating to inert gas systems on tankers

SSE 9 agreed in principle to an interpretation (below) on the application of non-return valves 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 and referred it to the Fire Protection correspondence group for finalisation.

- 1 "Two shut-off valves in series with a venting valve in between" should be "a double-block and bleed arrangement":
 - .1 either with separate components, i.e. two shut-off valves (block valves) and one vent valve (bleed valve) in between; or
 - .2 with such components combined in a single unit [provided that each shut-off mechanism is operated by separate actuators. The vent mechanism, however, may be operated by one of the above-mentioned actuators]/ [provided that each shut-off mechanism, as well as the vent one, are operated by independent actuators].
- 2 The requirements of paragraphs 2.2.3.1.2.1 and 2.2.3.1.2.2 of chapter 15 of the FSS Code should also apply to "a double-block and bleed arrangement".

Proposal for a unified interpretation of paragraph 2.1.2.6 of chapter 5 of the FSS Code

SSE 9 considered a proposal for a unified interpretation of paragraph 2.1.2.6 of chapter 5 of the FSS Code with a view to providing guidance to the shipping industry on factors to be considered during the design and construction of air testing fitting of fixed carbon dioxide systems and referred it to the Fire Protection correspondence group for further work.

Proposed unified interpretation of SOLAS regulations II-2/19.3.4.1 and II-2/19.3.5.4, regarding the required air changes for the carriage of dangerous goods.

SSE 9 agreed in principle to a proposed interpretation which is intended to clarify that the reduced air changes per hour (as per note 1 of table 19.1 of SOLAS regulation II-2/19) should apply equally to the ventilation air change requirements in SOLAS regulations II-2/19.3.4.1 and II-2/19.3.5.4, when the bilge pump is located directly inside a container cargo space. It was referred to the intersessional correspondence group for further consideration.

SSE 9 agreed in principle to the following unified interpretation:

Clarification of the fire testing requirements for pipe couplings required to remain operational after a fire casualty.

SSE 9 considered a proposal to amend the relevant part of interpretation 12 of appendix 1 of the annex to the *Interim Explanatory Notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369)* in order to clarify the fire testing provisions for pipe couplings, which are

expected to withstand the safe return to port (SRTP) of a casualty. Noting that the **Explanatory Notes** are already under review in the SDC sub-committee, SSE 9 agreed to refer the unified interpretation to SDC.

SSE 9 did not agree to the following:

Draft unified interpretation of paragraph 4.3.1.1.1 of the FSS Code on quantity of medium for fire extinguishers

The requirements of paragraph 4.3.1.1.1 of the FSS Code appear to assume that two different extinguishers with the same amount of extinguishing medium will perform equally well against the same fire. However, improvements in technology suggests that a performance-based rating is a more appropriate approach for prescribing the carriage of portable fire extinguishers. SSE 9 agreed that rather than a unified interpretation, an amendment to the regulation was required.

Proposal of a unified interpretation for the detector spacing in ro-ro cargo holds

SSE considered a draft unified interpretation clarifying the detector spacing which will enable the activation of fixed fire extinguishing systems other than fixed water-based fire-extinguishing systems (SOLAS regulation II-2/20.4.1). Such systems are required in ro-ro cargo holds, special category and vehicle spaces where the protected space construction could inhibit activation of the detector due to beams which project more than 100mm into the protected space. However, SSE 9 agreed that it would be more effective to revise the regulation.

Proposal on unified interpretation on the number of portable foam applicators in the appendix to MSC/Circ.1120

SSE 9 considered a proposal to amend the interpretation of the number of portable foam applicators in the combined engine/boiler room containing internal combustion machinery, oil-fired boilers and oil fuel units in the appendix to MSC/Circ.1120, to align with the requirement of SOLAS regulation II-2/10.5 but agreed that a new output would be required to take it forward.

Interpretation of SOLAS regulation II-2/9.7.4.5 (pertaining to vertical ducts)

SSE 9 considered 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 they pass through. Although SSE 9 could not agree to the interpretation it was agreed that it should be reconsidered under the new agenda item on the review of SOLAS II-2 regulation 9.

Any Other Business (FP)

Under this agenda item, SSE 9 considered the following:

Revised standards for the design, testing and location of devices to prevent the passage of flame into cargo tanks in tankers (MSC/Circ.677)

SOLAS regulation II-2/4.5.3.3 requires devices to prevent the passage of flame (DPPF) to comply with the **Revised standards for the design, testing and locating of devices to prevent the passage of flame into cargo tanks in tankers (MSC/Circ.677)**, which was amended by MSC/Circ.1009, in order to note that pressure/vacuum (P/V) valves should comply with ISO standard 15364:2000. SSE 9 considered whether MSC/Circ.677 should be updated to include reference to ISO standard 15364:2021 as proposed at MSC 105

which includes P/V leakage rates, or whether by referring to ISO15364:2000 it was aligned with the expectations of SOLAS as no permissible leakage rates were included, but could not agree.

The issue was referred to the FP correspondence group to determine the way forward and advise SSE 10

Clarification on the applicable international or national standards for fire-fighter's outfits

Clarification was sought on the applicable equipment standards for fire-fighters' outfits, as required by SOLAS regulation II-2/10 and chapter 3 of the FSS Code, in an effort to ensure safe and effective fire-fighting by ship's crew in case of shipboard fire. It is considered that the application of EN 469, ISO 11999-3, or equivalent standards, on fire-fighters' outfits used on board, may contribute to enhancing safety of ships and lives at sea.

Revision of the Code of safety for diving systems (A.831(19)) and the Guidelines and specifications for hyperbaric evacuation systems (A.692(17))

Draft MSC resolution International Code of Safety for Diving Operations, [2023] ([2023] Diving Code)

Draft MSC Circular on Guidance on the implementation the Code of Safety for Diving Operations (Resolution MSC xxx [107])

Since the adoption of the Code of Safety for Diving Systems (A.831(19) & A.692(17)) the offshore sector has improved the provision and use of hyperbaric evacuation systems. New and detailed industry guidelines on hyperbaric evacuation systems have since been published.

SSE 9 finalised the draft International Code of Safety for Diving Operations, [2023] ([2023] Diving Code).

Application: The International Code of Safety for Diving Operations, [2023] ([2023] Diving Code) is expected to apply to all ships of not less than 500 GT that have a diving system installed on or after a date to be decided. The date of the completed installation should be taken as the date on which the diving unit certificate is issued. Ships that have a diving system already installed (prior to a date yet to be decided) should be certified as a diving unit according to this Code by the due date of the next Cargo Ship Safety Construction Renewal Survey or equivalent. Diving systems under construction at the time of the Code coming into effect, should consider the installation date as the date the building contract of the diving system was signed.

The Administration may also apply these provisions as far as reasonable and practicable to ships less than 500 GT, and to other objects acting as a diving unit, but to which SOLAS does not apply.

It should be noted that the Diving Code does not apply to non-diving related plant and equipment required for the medical care or treatment of patients, in a Pressure Vessel for Human Occupancy (PVHO).

Subject: Draft MSC resolution International Code of Safety for Diving Operations, [2023] ([2023] Diving Code)

Impact: This is a new non-mandatory Code for the safe operation of diving units and systems

Application: All ships of not less than 500 gross tonnage that have a new diving system installed. Ships that have a Diving System already installed prior to a date yet to be decided should be certified as a diving unit according to this Code by the due date of the next Safety Construction Renewal Survey or equivalent.

SSE 9 also agreed to retain the existing standards provided by the existing 1995 Code for ships that have a diving system already installed under the 1995 Code, and the *Guidelines and Specifications for Hyperbaric Evacuation Systems* (resolution A.692(17)), to co-exist along with the new revised Code after it is adopted.

Revision of the provisions for helicopter facilities in SOLAS and the MODU Code

ICAO has amended the ICAO Convention Annex 14 (Aerodromes) Volume II (Heliports) which has a direct impact on the helicopter provisions in the MODU Code, as well as on the relevant helicopter requirements in SOLAS regulations II-2/18 and III/28.

No papers were submitted to this session, so consideration of this agenda item was deferred to SSE 10.

Subject: Revisions to SOLAS chapter II-2 and the MODU Code Chapter 13.

Impact: These revisions will align SOLAS and the MODU Code with the ICAO Convention Annex 14/Volume II.

Application: Not expected to enter into force before 1 January 2028

Unified Interpretations (not referring to LSA or FP)

SSE 9 agreed to the following unified interpretation:

Draft MSC circular on unified interpretation of the requirements of SOLAS regulation II-1/26.2

Acknowledging that a failure in the electrical system may have an impact, which is impossible to rectify on board the ship, the SOLAS regulations for the main power generation and distribution require them to be designed with redundancy (SOLAS regulations II-1/26.3 and II-1/41.1). SSE 9 agreed to a unified interpretation to clarify that this redundancy philosophy shall also be applied to all electrical machines used for propulsion, i.e. to require two independent electrical machines.

SSE 9 did not agree to the following unified interpretation:

Draft revision of unified interpretation concerning the arrangements for steering capability and function on ships fitted with propulsion and steering systems other than traditional arrangements for a ship's directional control (MSC.1/Circ.1416/Rev.1)

SOLAS adequately addresses steering gear arrangements having a traditional propulsion system and a rudder-type steering system and MSC.1/Circ.1416/Rev.1 provides an interpretation for modern combined propulsion/steering systems, such as azimuth thrusters, podded propulsors, waterjets, cycloidal propellers, etc. SSE 9 did not agree to a proposal to amend the circular to account for ships fitted with multiple steering propulsion units but agreed to reconsider it under a future agenda item on steering and propulsion requirements.

Any Other Business (not covered under LSA or FP)

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

SSE 9 finalised the draft interim guidelines for subsequent approval by MSC 107. The draft guidelines are intended to provide an international operational standard for the safe operation of OPS service on ships engaged on international voyages whilst they are in port, and do not apply to the electrical power supply during docking periods, e.g. dry docking and other out of service maintenance and repair.

SSE Sub-Committee's involvement in human element

SSE 9 noted information provided regarding a holistic approach to human element matters in connection with all IMO bodies and agreed to consider in more depth at SSE 10.

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