



IMO Ship Design and Construction Tenth session (SDC 10)

Summary Report

Executive Summary Report

The following are key outcomes from SDC 10:

- **Draft guidelines for emergency towing arrangements (ETA) for ships other than tankers**

The guidelines are supporting new SOLAS amendments to regulation II-1/3-4 which will come into force on 1 January 2028. Technical discussions are ongoing particularly to **ensure flexibility** of ETA designs and adequate **strength requirements**.

- *Review of the **Guidelines for the reduction of Underwater Radiated Noise from shipping to address adverse impacts on marine life** and identification of next steps*

A new URN **planning reference chart** was developed with the aim to aid the implementation of MEPC.1/Circ.906 - *Revised Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*. In particular, this tool will help to create a URN management plan and will be incorporated in a future revision of the Revised guidelines.

A *draft action plan* was finalised which outlines the next high-level steps IMO will focus on when developing **mandatory URN requirements**.

- *Finalised draft **guidelines on alternative design and arrangements for SOLAS chapter II-1 - Safety objectives and functional requirements***

The work has been completed. There are potential benefits such as additional options, cost effective designs for unique applications when designing **machinery** and **electrical installations**, and when considering **requirements for periodically unattended machinery spaces**.

- **Draft guidelines for use of fibre-reinforced plastics (FRP) within ship structures**

The revision of MSC.1/Circ.1574 - *Interim guidelines for use of Fibre Reinforced Plastic (FRP)* is ongoing. The next developments will focus on recyclability, fire safety and toxicity.

Discussion on the possibility of allowing FRP structures for design and construction also happened, however, this will need to be discussed and agreed at MSC 109 in December 2024 first.

Introduction

SDC 10 took place 22-26 January 2024. This report summarises discussions which are significant to Lloyd's Register's work with our customers. Additional LR Summary Reports are available at www.lr.org/imo.

Development of Guidelines for emergency towing arrangements (ETA) for ships other than tankers

After the pollution incidents that have repeatedly hit Europe since the end of the 1960s, provisions for emergency towing were introduced through SOLAS chapter II-1, regulation 3-4. The increase in the size of vessels no longer allows for emergency towing without suitable equipment.

The IMO has been working on a new set of Guidelines for ETAs applicable to new ships other than tankers of 20,000GT and above, other than tankers. They will apply from 1 January 2028 supporting SOLAS amendments to regulation II-1/3-4 which are expected to enter into force on 1 January 2028. Noting the wide scope of application, developing the following appropriate and safe practices has been the focus, but have not been finalised:

- Time for ETA deployment
- Flexibility in design to allow “equivalent arrangements”
- Strength requirements
- Prototype testing requirements
- Amendments to MSC.1/Circ.1175/Rev.1 - *Revised guidance on shipboard towing and mooring equipment*
- Amendments to MSC.1/Circ.1255 - *Guidelines for owners/operators on preparing emergency towing procedures*

Review of the Guidelines for the reduction of Underwater Radiated Noise from shipping to address adverse impacts on marine life and identification of next steps

Concern has been raised that a significant portion of the underwater noise generated by human activity may be related to commercial shipping. The international community recognises that underwater-radiated noise (URN) from commercial ships may have both short and long-term negative consequences on marine life, especially marine mammals.

Experience Building Phase (EBP) and revision of the Revised Guidelines

MEPC 80 approved MEPC.1/Circ.906 *Revised Guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life*. In an effort to make it easier to apply by the industry, an updated *draft URN Management Planning Reference Chart* has been developed and will be added to the circular alongside any other necessary amendment that was gathered from the EBP. An estimated timeline is outlined below:

- MEPC 80 (2023) the industry experience-building phase (EBP) began.
- MEPC 82 (2024) approval of MEPC.1/Circ.906/Rev.1 which will include the URN planning reference chart.
- MEPC 85 (2026) will assess the outcomes of the EBP.

Development of URN mandatory provisions (Draft Action Plan)

Work has also begun **to develop mandatory provisions** (draft action plan).

MEPC 81 (2024) is expected to evaluate and endorse the *draft action plan* which aims to:

- Enhance public awareness, education, and seafarer training;
- Standardise the Underwater Radiated Noise Management Planning process;
- Develop Underwater Radiated Noise Targets;
- Further develop the policy for URN reduction;
- Develop tools to collect data and share information;
- Encouraging research on URN and GHG/URN and Biofouling and the impacts of URN on species and habitats; and
- Decide, in more concrete terms, priorities and possible timelines for the completion of the points above.

For further related information to Underwater Acoustic Surveys [Contact LR](#).

Draft amendments to the 2011 Enhanced Survey Programme (ESP) Code

Proposals to include remote inspection techniques (RIT), as an alternative means for Close-up Survey of the structure of ships and mobile offshore units were discussed but will need to be developed further before being incorporated into the ESP Code. However the principle is generally supported as it greatly enhances the safety of personnel.

The following areas will need to be further investigated by future SDC sessions:

- Resolution of the camera image;
- Limitations (for example age of the ship);
- Record-keeping and sharing of the data;
- Qualifications for the surveyors/operators; and
- Expansion of the applicability of RIT to ships not subject to ESP Code.

It's anticipated that this could be completed by 2026 with possible entry into force on 1 January 2028.

Draft revision of MSC.1/Circ.1212/Rev.1 - Guidelines on alternative design and arrangements for SOLAS chapter II-1 - Safety objectives and functional requirements

SDC completed the work on the revision to MSC.1/Circular.1212/Rev.1 *Revised guidelines on alternative design and arrangements for SOLAS chapters II-1 and III* which now includes:

1. Goals for each requirement
2. Functional requirements and expected performance of SOLAS chapter II-1 of:
 - a. Part C Machinery installations;
 - b. Part D Electrical installations; and
 - c. Part E Additional requirements for periodically unattended machinery spaces.

Using these guidelines usually requires significantly more time for calculation and documentation than for typical prescriptive regulation compliance because of increased engineering rigor. The potential benefits include more options, cost effective designs for unique applications.

Application: These guidelines will apply to all passenger ships and to all cargo ships of 500GT and above engaged in international voyages for which there is an alternative design and arrangement under SOLAS chapter II-1, regulation 55. MSC 108 in May 2024 will consider and approve the revision to circular MSC.1/Circ.1212/Rev.1 – if time permits.

Draft revision of SOLAS chapters II-1 (part C) and V, and related instruments regarding steering and propulsion requirements, to address both traditional and non-traditional propulsion and steering systems

Steering systems have evolved radically since current SOLAS regulations were adopted; many modern systems are a combination of propulsion and steering. Current SOLAS requirements do not adequately consider these non-traditional propulsion/steering systems.

Until now, this issue was addressed by means of unified interpretations (MSC.1/Circ.1416/Rev.1), however a review is considered necessary in order to reflect modern propulsion/steering systems in the IMO's regulatory framework.

Draft amendments now include:

1. A new SOLAS regulation II-1/28-1 – Means of going astern and stopping.
2. A new SOLAS regulation II-1/29-1 – Steering.

Future development could include amendments to the following sections of SOLAS, resolutions and circulars:

3. Expected Performance Standards SOLAS regulations II-1/28 to 30
4. SOLAS regulation II-1/30 – Additional requirements for electric and electrohydraulic steering gears
5. SOLAS regulation II-1/42 - Emergency Source of Electrical Power in Passenger Ships
6. SOLAS regulation II-1/ 43 - Emergency Source of Electrical Power in Cargo Ships
7. SOLAS regulation V/25 – Operation of steering gear

8. SOLAS regulation V/26 – Steering gear: Testing and drills
9. MSC.1/Circ.1536 – Unified Interpretation of SOLAS regulations II-1/29.3 and 29.4
10. Resolution A.467(XII) – Guidelines for acceptance of non-duplicated rudder actuators for tankers, chemical tankers and gas carriers of 10,000 tons gross tonnage and above but less than 100,000 tonnes deadweight
11. Resolution MSC.137(76) – Standards for Ship Manoeuvrability
12. MSC/Circ.1053 – Explanatory Notes to the Standards for ship manoeuvrability
13. Resolution A.601(15) – Provision and Display of Manoeuvring Information on board Ships
14. Possible revocation of resolutions A.415(XI) and A.416(XI), MSC.1/Circ.1398 and MSC.1/Circ.1416/Rev.1.

Further discussion will continue and this work is expected to be finalised by 2025 (SDC 11).

Expected application: all new passenger ships and to all cargo ships of 500GT and above engaged in international voyages which are contracted for construction on or after 1 January 2028.

Draft amendments to the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation (MSC.1/Circ.1331) concerning the rigging of safety netting on accommodation ladders and gangways.

This circular provides guidelines for the inspection and maintenance of the means of embarkation and disembarkation under SOLAS II-1/3-9. Amendments have been agreed to the circular which will mainly impact manufacturers who will need to review the design of accommodation ladders as they will need to comply with recognised standards, depending upon on the installation date of the accommodation ladder or gangway, or on the ship's construction date.

The following amendments were agreed:

- Crew engaged in rigging the accommodation ladder or gangways and the safety net should have sufficient personal safety protection. The crew should wear life jackets and safety harnesses while rigging.
- The safety net will not be required if adequate mitigation measures are in place as listed in the amendments to the circular.
- The safety net and/or side net should be properly stored in ventilated places avoiding sunlight and chemical contamination. The safety net and/or side net should be checked and maintained regularly and replaced as necessary.
- Small changes to the load tests.

Application of the circular will be considered at MSC 108. The currently proposed text is as follows:

- Accommodation ladders and gangways for means of embarkation and disembarkation which are provided on board ships constructed on or after 1 January 2010 should meet applicable international standards such as ISO 5488:1979 - *Shipbuilding – accommodation ladders*, ISO 7061:1993 - *Shipbuilding – aluminium shore gangways for seagoing vessels* or other recognised standards.
- Accommodation ladders and gangways for means of embarkation and disembarkation which are installed on or after 1 July 2026 should meet applicable international standards such as ISO

5488:2015, *Shipbuilding-accommodation ladders*, ISO 7061:2015, *Shipbuilding-aluminium shore gangways*.

- The construction and test of accommodation ladder winches installed on or after 1 July 2026 should be in accordance with applicable international standards such as ISO 7364: 2016 *Shipbuilding and marine structures – deck machinery – accommodation ladder winches*.
- The guidance applies to accommodation ladders and gangways and not pilot ladders.

Unified interpretations

When regulations are unclear in their intent, a unified interpretation (UI) can be developed to clarify and help ensure consistent application.

The following have been agreed by SDC and will now be passed to MSC for approval:

New Unified interpretations of the Code on Noise Levels on Board Ships (resolution MSC.337(91))

A new UI to provide more specific guidance on calibration for sound level meters and calibrators.

The measurement service provider should provide documentation on the standard which has been met. The documentation should include a clear statement of the results of the periodic tests and which performance class the instrument meets after calibration.

The draft circular is expected to apply to ships of 1,600GT and above but not to:

- High Speed Craft:
- Fishing vessels:
- MODUs; and
- Pleasure yachts.

Approval is expected at MSC 108 in May 2024.

Draft Amendments to MSC.1/Circ.1572/Rev.1 - Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers

Draft amendments to this circular include - water level detectors in cargo areas should:

- Be suitable for installation in a hazardous area comparable with that defined in IEC 60092-506
- Be suitable for the explosive gas atmosphere and/or combustible dust that can be present. If gases and the dust are unknown, temperature class T6, gas group IIC and/or dust group IIIC, are to be used as appropriate.
- Be manufactured, tested, marked and installed in accordance with the IEC 60079-series or other equivalent recognised international standard.
- Where certified explosion safe (EX) equipment is installed, the equipment should be adequately protected against mechanical damage from the cargo or cargo loading and unloading equipment so as to maintain its EX properties.

Following approval, this will apply to subsequent newly installed water level detectors on bulk carriers (regardless of their date of construction). Single or multiple hold cargo ships other than tankers, are to comply with resolution MSC.188(79)/Rev.2 *Performance standards for water level detectors on ships subject to SOLAS regulations II-1/25, II-1/25-1 and XII/12*.

Approval is expected at MSC 108 in May 2024.

Draft amendments to Interpretations to SOLAS II-1/3-6 contained in the Annex of MSC.1/Circ.1572/Rev.1 - Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers

There is a need to increase the frequency of inspections of the means of access (to be carried out by the crew or competent inspectors) to an annual inspection. The results of those inspections should be recorded in Part 2 of the Ship Structure Access Manual and be made available to the surveyor.

A history of repairs carried out should also be recorded additionally.

This is expected to apply to oil tankers of 500GT and over and bulk carriers, as defined in regulation IX/1, of 20,000GT and over, constructed on or after 1 January 2006.

Approval is expected at MSC 108 in May 2024.

Draft Unified interpretation of SOLAS XV/5.1 and Part 1, paragraph 3.5 of the IP Code.

This UI will clarify how to harmonise the Industrial Personnel Safety Certificate with various SOLAS safety certificates when their validity or endorsement differs.

The draft circular will apply to ships that have to comply with SOLAS Ch. XV - *Safety measures for ships carrying industrial personnel*.

Approval is expected at MSC 108 in May 2024.

Amendments to MSC.1/Circ.1511 - Unified interpretations of SOLAS regulations II-2/9 Containment of Fire and 13 Means of Escape

The definition of “safe space” now includes steering gear spaces where hydraulic oils for the steering gear equipment are usually stowed as well as special category spaces.

This UI will help designers, ship operators and Administrations when considering the means of escape through a protected enclosure, to a steering gear space where hydraulic oil is stowed which are often subjected to considerations.

This is expected to apply to all cargo ships of 500GT and over, and all passenger ships on international voyages.

Approval is expected at MSC 108 in May 2024.

Amendment to the 1988 Load Line Protocol, regulation 25, on the requirement for fitting guard rails or bulwarks on the deck structure

New amendments will require that all guard rails or bulwarks which are located on exposed decks and are accessible to crews during navigation, will need to meet the same standard as those on exposed superstructure or freeboard decks (shall have at least three courses and the opening below the lowest course of the guard rails shall not exceed 230 mm. The other courses shall be not more than 380 mm apart).

These changes will impact all new ships of 24m or more in length that engage on international voyages, and which are contracted for construction from 1 January 2028.

Draft guidelines for use of fibre-reinforced plastics (FRP) within ship structures

Driven by research and development projects' outcomes, the IMO is evaluating a revision of MSC.1/Circ.1574 – *Interim Guidelines for Use of Fibre Reinforced Plastic (FRP) Elements within Ship Structures - Fire safety issues*. Concerns have been raised around the recyclability, fire safety and toxicity that will need to be studied and carefully assessed before a revision to the Interim Guidelines can be approved. This work is expected to be finalised in 2025.

In addition, expansion of their applicability to include FRP composite structures will likely be discussed at MSC 109 in December 2024. Extensive work will need to happen specifically around the sustainability and health concerns, however if FRP structures are then permitted, it could provide opportunities for lighter weight ship designs in the future.

Revision of MSC.1/Circ.1369 Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty and related circulars

Since the approval of *Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369)*, which provide additional guidance to SOLAS regulations II-1/8-1, II-2/21 and II-2/22, technology, processes, fuels and industry experience have changed. Differing interpretations on the implementation of the Safe Return to Port (SRtP) regulations have been observed in the industry, especially around single voyages exceeding SRtP range, crew operation and use of gas as fuel or other low-flash point fuels on passenger ships.

Draft amendments to MSC.1/Circ.1369 are being developed to improve the guidance around weather and wave conditions, weather conditions (severity), the duration of the voyage, crew training and familiarisation, and alternative fuels. This work is expected to be finalised in 2025.

Any other Business

Review of MSC.1/Circ.1627 *Interim guidelines on the second generation intact stability criteria*

As the industry is gaining more experience in using the circular, it has been noted that for ships longer than 140m the natural roll period might be unintentionally underestimated.

As the Interim Guidelines were approved in 2020, it was decided that more time is required in order to gather additional information and experience before initiating any amendments to the circular.

Guidance on safety measures for cargo ships and pleasure yachts engaged in trade of less than 500GT and operating in polar waters

As more and more ships enter polar waters, safety concerns are being raised. Future sessions of SDC will evaluate possible actions to mitigate related safety hazards and problems.

Review of A.1021(26) 2009 Code on Alerts and Indicators

Since the adoption of the Code, many IMO instruments referenced within it have been revised. SDC 11 will commence a review of the Code to update it accordingly and to remove contradictions, ambiguities and unnecessary redundancies. The target completion date for this work is 2026.

Regulatory Affairs

Lloyd's Register Global Technology Centre,
Southampton Boldrewood Innovation Campus,
Burgess Road, Southampton,
SO16 7QF, UK

Lloyd's Register EMEA

e: RegulatoryAffairs@lr.org

w: www.lr.org/imo

To find previous material and to register to receive regular updates on IMO meetings and developments, please visit <https://www.lr.org/imo>

This report has been produced and disseminated immediately after the closure of the meeting in order to provide timely advice to the reader. Subsequently we apologise if it has not been fully proof read to remove grammatical errors. New circular and resolution numbers given here may be subject to change when IMO publish the final versions.

Lloyd's Register and variants of it are trading names of Lloyd's Register Group Limited, its subsidiaries and affiliates. Copyright © Lloyd's Register EMEA (Reg. no. 29592R) is an Industrial and Provident Society registered in England and Wales. Registered office; 71 Fenchurch Street, London, EC3M 4BS, UK. 2024. A member of the Lloyd's Register group.

Lloyd's Register Group Limited, its subsidiaries and affiliates and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

