



NEWS BRIEF: SDC 8

The IMO Sub-Committee on Ship Design and Construction (SDC) held its 8th session from January 17 to 21, 2022. This Brief provides an overview of the more significant issues progressed at this session.

KEY DEVELOPMENTS

- New SOLAS Chapter XV – Carriage of Industrial Personnel / IP Code
- Amendments to ESP Code
- Workplan on Underwater Noise Reduction
- Asbestos on Offshore Units
- Emergency Towing Equipment for Ships Other Than Tankers

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CARRIAGE OF INDUSTRIAL PERSONNEL

New SOLAS Chapter XV – Safety Measures for Ships Carrying Industrial Personnel

The Sub-Committee finalized a draft new SOLAS Chapter XV addressing cargo ships and high-speed cargo craft of 500 gross tonnage and upward, carrying more than 12 industrial personnel. For the purposes of this new chapter, industrial personnel are persons transported or accommodated on board for the purpose of performing offshore industrial activities (construction, maintenance, decommissioning, operation or servicing of offshore facilities related, but not limited, to exploration and exploitation of resources by the renewable or hydrocarbon energy sectors, aquaculture, ocean mining or similar activities) performed on board other ships and/or offshore facilities. Wherever the number of industrial personnel onboard appears as a parameter for application of a regulation, it shall be taken to mean the aggregate number of industrial personnel, special personnel and passengers carried onboard (where the number of passengers shall not exceed 12 persons).

This amendment to SOLAS will coincide with the adoption of the *Code of Safety for Ships Carrying Industrial Personnel*, or IP Code. The new SOLAS Chapter XV will be structured to clarify the application of the IP Code to vessels normally certified under SOLAS and the HSC Code.

For existing ships constructed before entry into force of SOLAS Chapter XV that comply with the *Interim Recommendations on the Safe Carriage of More Than 12 Industrial Personnel on Vessels Engaged on International Voyages* (MSC.418(97), adopted 25 November 2016), a grace period will be given before selected regulations in the IP Code must be complied with. Existing cargo ships which carry more than 12 industrial personnel must comply with selected requirements of the IP Code by the first intermediate or renewal survey after entry into force of these amendments. Existing high-speed cargo craft which carry more than 12 industrial personnel must comply with selected requirements of the IP Code by the third periodical or first renewal survey after entry into force of these amendments.

Existing cargo ships or high-speed cargo craft, irrespective of date of construction, which have not been authorized to carry more than 12 industrial personnel prior to entry into force of SOLAS Chapter XV must fully comply with and be certified in accordance with the IP Code before carrying more than 12 industrial personnel.

Next Steps: The draft amendments to SOLAS will be progressed to MSC 105 (Apr-2022) for further consideration and approval, and subsequent adoption at MSC 106 (Nov-2022).



Code of Safety for Ships Carrying Industrial Personnel (IP Code)

In association with the previous section, the Sub-Committee also finalized the draft *Code of Safety for Ships Carrying Industrial Personnel*, or IP Code. In support of expanding maritime offshore and energy sectors, the IP Code is intended to supplement existing IMO instruments in order to provide international safety standards for the carriage of industrial personnel onboard cargo ships and high-speed cargo craft.

Using SOLAS and the 2000 HSC Code as a basis for regulatory compliance, the IP Code provides goals, functional requirements, and additional regulations aimed to facilitate the safe carriage and transfer of industrial personnel by addressing additional risks connected to such operations. The supplemental regulations of the IP Code address the following subjects:

- 1) Safe transfer of personnel
- 2) Subdivision and stability
- 3) Machinery installations
- 4) Electrical installations
- 5) Periodically unattended machinery spaces
- 6) Fire safety
- 7) Life-saving appliances
- 8) Dangerous goods

Additionally, Administrations and Recognized Organization will document compliance with the IP Code through the issuance of an Industrial Personnel Safety Certificate.

Next Steps: The draft IP Code will be progressed to MSC 105 (Apr-2022) for further consideration and approval, and subsequent adoption at MSC 106 (Nov-2022). Additionally, discussion will continue at SDC 9 to consider creation of an Explanatory Notes document to accompany the IP Code, and amendments to the SPS Code to clarify the applicability of these two codes.

SECOND GENERATION INTACT STABILITY CRITERIA

Draft – Explanatory Notes to the *Interim Guidelines on Second Generation Intact Stability Criteria*

To support the uniform interpretation and application of the *Interim Guidelines on Second Generation Intact Stability Criteria* (MSC.1/Circ.1627) which was adopted at MSC 102, the Sub-Committee has finalized an accompanying Explanatory Note to assist the shipping industry in understanding and applying certain concepts within the Interim Guidelines. The structure of the Explanatory Notes follows that of the Interim Guidelines and provides comments and explanations for those paragraphs of the Interim Guidelines that have been identified as most benefiting from additional discussion, clarification or explanation. In six appendices, the Explanatory Notes provide guidance on the following aspects of the Interim Guidelines:

- Appendix 1 – Physical description of the stability failure modes addressed by the second generation intact stability criteria
- Appendix 2 – Examples of assessments using vulnerability criteria according to the second generation intact stability criteria
- Appendix 3 – Elements for numerical modelling of roll motion in the vulnerability criteria of the second generation intact stability criteria
- Appendix 4 – Theoretical background, validation and application examples for the Guidelines on direct stability assessment
- Appendix 5 – Theoretical background, validation, and application examples for the Guidelines on operational measures
- Appendix 6 – Application examples of treatment of loading conditions

Next Steps: The Explanatory Notes will be progressed to MSC 105 (Apr-2022) for further consideration and approval, for release as an MSC circular.



SOLAS DEVELOPMENTS

Development of Functional Requirements for SOLAS Chapter II-1

As part of ongoing work to develop a new edition of the *Revised Guidelines on Alternative Design and Arrangements for SOLAS Chapters II-1 and III* (MSC.1/Circ.1212/Rev.1), the Sub-Committee at this session has finalized guidelines on the goals, functional requirements and performance expectations for SOLAS Chapter II-1 Part D (Electrical Installations). The goal of this guidance for Part D on alternative design and arrangements is to ensure adequate availability of electrically-powered services for safe operation of the ship and protect the persons on board from hazards of electrical origin in normal and emergency conditions.

The functional requirements (FR) for alternative design and arrangements for SOLAS Chapter II-1 Part D are proposed as:

- FR 1: Provide sufficient power to electrical loads in normal and emergency conditions
- FR 2: Maintain electrical power supply in normal and emergency conditions
- FR 3: Restore electrical power supply after malfunction
- FR 4: Limit impact of incidents not originating from electrical systems
- FR 5: Prevent shock, fire and other hazards of electrical origin
- FR 6: Provide and maintain adequate illumination for normal and emergency conditions

Future vessel designs may utilize these guidelines to broaden options for unique designs meeting the intent of the SOLAS regulations.

Next Steps: A correspondence group will be established to continue making progress on similar guidelines for SOLAS Chapter II-1 Part C (Machinery Installations) and Part E (Unattended Machinery Spaces). Further discussion on these Guidelines will resume at SDC 9 (Jan-2023).

UNIFIED INTERPRETATIONS TO PROVISIONS OF IMO SAFETY, SECURITY, AND ENVIRONMENT-RELATED CONVENTIONS

Proposed Unified Interpretation of Regulation 37(3) of the 1988 Load Lines Protocol

The Sub-Committee agreed to a proposed unified interpretation of regulation 37(3) of the 1988 Load Lines Protocol, which currently does not provide clarity on the superstructure reduction for freeboard calculations for type 'B' ships or ships with reduced type-B freeboard with a forecastle of an effective length of less than 0.07L. This unified interpretation clarifies that:

- 1) for ships assigned a type 'B' freeboard, including reduced type 'B', if the effective length of a forecastle is less than 0.07L, a superstructure deduction cannot be applied to the ship; and
- 2) in case the ship has a full superstructure (one that extends from AP to FP, per regulation 3(10)(h) of Annex B of the 1988 Load Lines Protocol), the deduction for a superstructure may be applied in accordance with regulation 37(1) of Annex B of the 1988 Load Lines Protocol.

Next Steps: A revised circular incorporating this unified interpretation will be progressed to MSC 105 (Apr-2022) for further consideration and approval, for release as circular MSC.1/Circ.1535/Rev.2.



Proposed Unified Interpretation of the Amendment to Stability/Loading Information in Conjunction with the Alterations of Lightweight

The Sub-Committee agreed to a proposed unified interpretation of SOLAS regulations II-1/5.4 and II-1/5.5, clarifying that in cases where the lightship properties of a ship changed beyond the specified deviation limits, the instruments/documents (such as loading manual, loading computer and stability computer) utilizing the lightship properties should be amended based on the new lightship properties, and the lightweight calculation should also be verified on board.

Next Steps: This new draft unified interpretation will be progressed to MSC 105 (Apr-2022) for further consideration and approval.

Timber Deck Cargo in the Context of Damage Stability Requirements

The Sub-Committee agreed to a proposed update to the *Unified Interpretation Regarding Timber Deck Cargo in the Context of Damage Stability Requirements* (MSC/Circ.998), based on an update to IACS Unified Interpretation SC161 which was previously annexed to MSC/Circ.998. The update to UI SC161 was necessary due to relevant SOLAS amendments and the revocation of the 1991 Timber Code, which was replaced by the *Code of Safe Practice for Ships Carrying Timber Deck Cargoes, 2011 (Resolution A.1048(27))* (2011 TDC Code).

Next Steps: This revised unified interpretation will be progressed to MSC 105 (Apr-2022) for further consideration and approval.

Proposal to Amend Section 4.2 of the Annex to MSC.1/Circ.1572/Rev.1

The Sub-Committee considered proposed modifications to the existing unified interpretation of SOLAS regulation II-1/26 that is given in circular MSC.1/Circ.1572/Rev.1. The proposed modifications to the unified interpretation were aimed to (1) provide new clarification regarding “equivalent arrangements” for provision of fuel oil service tanks, by identifying such tanks in line with their heating requirements for injection; and (2) clarify that fuel oils intended to meet different sulphur limits should not be considered as different types of fuels with respect to the safety requirement of SOLAS regulation II-1/26. However, the Sub-Committee determined this proposal would need further consideration before being uniformly considered as a basis for an equivalent arrangement.

Next Steps: The Sub-Committee invited Member States and organizations to submit further proposals on this subject to SDC 9 (Jan-2023).

Proposed Interpretation of Requirements for Noise in Workshops

The Sub-Committee agreed to a proposed unified interpretation of paragraph 4.2.1 of the *Code on Noise Levels On Board Ships* (resolution MSC.337(91)) to clarify the application of noise limits for “workshops other than those forming part of machinery spaces”. Such spaces are to be understood to be spaces which are separated from the engine-room with bulkheads extending from deck to deck, which may include access doors of the equivalent acoustic insulating properties as the bulkhead. Workbenches and workstations located inside the machinery space should not be considered as “workshops other than those forming part of machinery spaces”. Noise level limits should be assigned accordingly for these two types of workshops.

Next Steps: This unified interpretation will be progressed to MSC 105 (Apr-2022) for further consideration and approval.



Penetrations in Watertight Divisions

The Sub-Committee considered a submittal soliciting the view of the Sub-Committee on the requirements of SOLAS regulation II-1/13 and II-1/13-1 with respect to the applicability of prototype testing of penetration watertightness after having undergone the standard fire test appropriate for the location where those penetrations are to be installed. In opinions expressed within the Sub-Committee, it was generally agreed that any penetration used for the passage of heat sensitive piping systems through a watertight bulkhead on a passenger ship must be tested with the heat sensitive piping and approved for watertight integrity post fire. It was also generally agreed that due to the considered flooding risk, SOLAS regulation II-1/13 is only considered for heat sensitive piping systems and not intended to be applied to cable penetrations.

Next Steps: Having provided this feedback to the submitter, the Sub-Committee invited the submittal of a draft interpretation on the application of SOLAS regulations II-1/13 and II-1/13-1, to be submitted to SDC 9.

OTHER DEVELOPMENTS

Draft Amendments to the 2011 ESP Code

Based on the findings of a recent marine safety investigation, the Sub-Committee finalized amendments to the 2011 ESP Code that are intended to align the requirements for inspections of void spaces bounding cargo holds with the existing requirements for inspections of water ballast tanks. For ships that have undergone a major conversion into a bulk carrier or ships that were originally designed to be a bulk carrier and have been subjected to a major conversion, additional amendments would require such tanks and other spaces to be subject to annual examinations if the tank structure has been subjected to major conversion and where a hard protective coating is found to be in “less than GOOD” condition. The proposed amendments will apply to bulk carriers of single-side skin construction and double-side skin construction.

Several additional clarifying amendments to the 2011 ESP Code were also finalized:

- 1) Clarification that the ESP Code is not applicable to oil tankers carrying oil in independent tanks not part of ship's hull; and
- 2) Clarification of requirement for examination of ballast tanks at annual surveys.

Next Steps: The draft amendments to the 2011 ESP will be progressed to MSC 105 (Apr-2022) for further consideration and approval, and subsequent adoption at MSC 106 (Nov-2022).

Workplan on Underwater Noise Reduction

Following MEPC 76, the Sub-Committee was tasked to review the *2014 Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life* (MEPC.1/Circ 833), and to develop a work plan that will organize the IMO's efforts in mitigating the consequences of underwater noise in the marine environment. The work plan will include:

- 1) identifying barriers to uptake and implementation of the Guidelines;
- 2) identifying measures to prevent and reduce underwater noise from ships;
- 3) identifying an acceptable means of measuring existing ship noise profiles;
- 4) identifying areas that require further research; and
- 5) amending the Guidelines and identifying next steps.

In discussion, it was acknowledged that characteristics of underwater radiated noise (URN) may vary from one region to the next, and the sensitivity of local fauna may vary between regions as well, and therefore additional studies may



be needed to determine appropriate steps for URN reduction. It was also noted that upcoming regulatory activity related to reduction of greenhouse gases may have a positive effect on overall URN (namely, the implementation of EEXI and CII, which may result in an increasing number of vessels operating their engines at reduced power), and steps should be taken to better understand this impact.

Next Steps: A correspondence group has been established to make progress on this subject. Further discussion on this matter will resume at SDC 9 (Jan-2023).

Revision of the 1979, 1989 and 2009 MODU Codes to Prohibit Use of Materials Containing Asbestos

The Sub-Committee received several proposed amendments aimed toward clearly establishing a prohibition of the new installation of asbestos-containing materials (ACM) onboard offshore units. A unified interpretation has also been proposed to accompany these amendments, serving to clarify:

- 1) “new installation” of asbestos-containing materials means any new physical installation onboard (i.e. repaired, replaced, maintained or added); and
- 2) Documentation practices associated with confirming the absence of asbestos in newly installed materials is subject to audit as per the Safety Management System of the unit.

In discussion, it was noted that the prohibition on asbestos that was originally proposed under the SOLAS Convention has resulted in the removal of gaskets containing asbestos from various types of machinery, and that this may not have been the most practical solution for some machinery types. Therefore, Member States intended to propose alternatives to address such circumstances. Also, a proposed grace period before prohibiting ACM under the 1979 and 1989 MODU Codes was considered, but will be subject to further discussions.

Next Steps: A correspondence group has been established to make progress on finalizing the proposed amendments and unified interpretation, and also to develop guidance on the typical asbestos-containing materials found on offshore units. Further discussion on these amendments will resume at SDC 9 (Jan-2023).

Revision of the Performance Standards for Water Level Detectors On Bulk Carriers and Single Hold Cargo Ships Other Than Bulk Carriers (Resolution MSC.188(79))

The Sub-Committee finalized draft amendments to the *Performance Standards for Water Level Detectors on Bulk Carriers and Single Hold Cargo Ships Other Than Bulk Carriers* (MSC.188(79)), which are intended to broaden the application of this standard to all vessels subject to Regulations 25 and 25-1 of SOLAS Chapter II-1, and Regulation 12 of SOLAS Chapter XII. In addition, the standard was amended to incorporate new requirements on:

- 1) operation in low temperatures;
- 2) instances when bilge level alarms are used as water level detectors on multiple hold cargo ships for compliance with new SOLAS regulation II-1/25-1;
- 3) clarification on where the height of the water level detector is measured when a lining or insulation is fitted to a hold.

Additionally, the Sub-Committee agreed that the revised Performance Standards should apply to water level detectors installed on or after 1 January 2024.

Next Steps: The revised Performance Standard will be progressed to MSC 105 (Apr-2022) for further consideration and approval, for release as resolution MSC.188(79)/Rev.1.



Emergency Towing Equipment for Ships Other Than Tankers (Amendments to SOLAS Regulation II-1/3-4)

The Sub-Committee received proposals for an amendment to SOLAS Chapter II-1/Regulation 3-4 regarding emergency towing arrangements for tankers, proposing to extend these requirements to large vessels of all types. As per existing requirements on emergency towing for ships, tankers of 20,000 deadweight or greater are required to have an emergency towing arrangement (fore and aft) as well as an emergency towing procedure, while other ship types are only required to have a towing procedure. The amended regulation would require the provision of emergency towing arrangements forward and aft on vessels of all types greater than a specified gross tonnage which are constructed after entry into force of the regulation. The current proposals on this subject have proposed two different thresholds of gross tonnage for the application of this requirement (20,000 GT or 150,000 GT), and it remains to be decided where this threshold will be established.

In discussion, it was noted that other factors may need to be considered before broadening the application of requirements for emergency towing equipment. These other factors include criteria based on vessel length, and the availability of open deck space for towing equipment on various ship types. It was also noted that a subsequent amendment to the *Guidelines on Emergency Towing Arrangements for Tankers* (Resolution MSC.35(63), as amended) may be needed in order to extend these Guidelines to ships other than tankers.

Next Steps: Due to time constraints, and the identified need for in-depth discussion on this proposed new regulation, discussion on this subject will be delayed until SDC 9 (Jan-2023). It was previously agreed at MSC 103 that the target entry into force date for this SOLAS amendment would be 1 January 2028.