



Technical Information

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To : Whom It May Concern

Subject : Summary Report on IMO Meeting of Sub-Committee on Ship Design and Construction 5th Session (SDC 5)

Summary

This Technical Information summarizes the result of 5th Session of the IMO Sub-Committee on Ship Design and Construction (SDC 5) that was held from the 22 to 26 January 2018, at the IMO headquarters in London.

Information

1. The information provided in this Technical Information are the ones which have high relevance with the work of BKI or considered as an essential information for interested parties.
2. The following agenda are among those discussed during the meeting :

Agenda Item	Topic
3	Amendments to SOLAS regulation II-1/8-1 on the availability of passenger ships' electrical power supply in cases of flooding from side raking damage
4	Computerized stability support for the master in case of flooding for existing passenger ships
5	Review SOLAS chapter II-1, parts B-2 to B-4, to ensure consistency with parts B and B-1 with regard to watertight integrity
6	Finalization of second generation intact stability criteria
7	Mandatory instrument and/or provisions addressing safety standards for the carriage of more than 12 industrial personnel on board vessels engaged on international voyages
8	Amendments to the 2011 ESP Code
9	Unified interpretation to provisions of IMO safety, security, and environment-related Conventions
10	Revised SOLAS regulation II-1/3-8 and associated guidelines (MSC.1/Circ.1175) and new guidelines for safe mooring operations for all ships
11	Guidelines for wing-in-ground craft

3. The Agenda above are several technical issues discussed during the meeting. A brief coverage among the issues are expressed in the attached document.

More info

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BRIEF INFORMATION ON IMO MEETING OF SUB-COMMITTEE ON SHIP DESIGN AND CONSTRUCTION 5TH SESSION (SDC 5)

A. AMENDMENTS TO SOLAS REGULATION II-1/8-1 ON THE AVAILABILITY OF PASSENGER SHIPS' ELECTRICAL POWER SUPPLY IN CASES OF FLOODING FROM SIDE RAKING DAMAGE (AGENDA ITEM 3)

Taking into account a concern regarding the availability of passenger ships' electrical power supply in cases of flooding, the Sub-Committee had established the Correspondence Group on Subdivision and Damage Stability (SDS) to develop the draft amendments to SOLAS regulation II-1/8-1 in order to include functional and performance requirements to improve the availability of passenger ships' electrical power supply in cases of flooding from side raking damage.

At this session, the Correspondence Group submitted its report providing information regarding the progress made in the development of the draft amendments to SOLAS regulation II-1/8-1 and advising on the specific issues requiring further consideration.

Upon its deliberation on the report, the Sub-Committee agreed to request Maritime Safety Committee (MSC) for clarification of the scope of this work and confirmation whether the matter should be solved by applying electrical engineering solutions (e.g. distribution of emergency sources of power), rather than naval architectural solutions, such as a double hull or other structural requirements that would impact not only the current safe-return-to-port concept, but also the probabilistic requirements in SOLAS chapter II-1.

Therefore, the Sub-Committee decided not to proceed with the finalization of the draft amendments to SOLAS regulation II-1/8-1.2.

B. COMPUTERIZED STABILITY SUPPORT FOR THE MASTER IN CASE OF FLOODING FOR EXISTING PASSENGER SHIPS (AGENDA ITEM 4)

After the accident of Costa Concordia, there were several proposals submitted to IMO to enhance the safety of passenger ships. One of the proposals was the proposal to amend SOLAS regulation II-1/8-1.3 which requires existing passenger ships to be provided with computerized stability support.

Based on the proposal submitted at SDC 4, the Sub-Committee developed the draft amendments to SOLAS regulations II-1/1 and II-1/8-1 on computerized stability support for the master in case of flooding for existing passenger ships, which have been submitted to MSC 98 for approval.

Upon the approval of the draft amendments to SOLAS regulations II-1/1 and II-1/8-1, all passenger ships constructed before 1 January 2014 will require having stability computers and shore-based support.

In order to ensure its smooth implementation, the Sub-Committee, at its fourth session, established and instructed the Correspondence Group on Subdivision and Damage Stability to develop draft guidelines on stability computers and shore-based support for passenger ships constructed before

1 January 2014.

Having considered the report of the Correspondence Group, the Sub-Committee established SDS Drafting Group and instructed to finalize the draft Guidelines on stability computers and shore-based support for passenger ships constructed before 1 January 2014 and the associated draft MSC circular.

In general, the Guidelines contain:

1. The capabilities of stability computers and shore-based support
2. The required input and output for the system
3. Approval and testing of the system
4. Limitations of the system
5. Additional requirements for ro-ro passengers
6. Requirements for ships fitted with onboard damage stability computers before required by SOLAS regulation II-1/8-1.3
7. Equivalent arrangements
8. Other issues needed to address

C. REVIEW SOLAS CHAPTER II-1, PARTS B-2 TO B-4, TO ENSURE CONSISTENCY WITH PARTS B AND B-1 WITH REGARD TO WATERTIGHT INTEGRITY (AGENDA ITEM 5)

Having considered document submitted by Norway proposing to review and revise regulations in SOLAS chapter II-1 to ensure consistency between the probabilistic damage stability requirements in parts B and B-1 of SOLAS chapter II-1 and the requirements for watertight integrity contained in parts B-2 to B-4 of SOLAS chapter II-1, the Sub-Committee agreed to re-established the Correspondence Group on Subdivision and Damage Stability (SDS).

D. FINALIZATION OF SECOND GENERATION INTACT STABILITY CRITERIA (AGENDA ITEM 6)

As one of efforts to promote and enhance safety of ships, IMO has been developing second generation intact stability criteria which deal with five failure modes:

1. pure loss of stability;
2. parametric roll resonance;
3. surf-riding / broaching;
4. dead ship condition; and
5. excessive accelerations

For each failure mode, there will be three levels of vulnerability criteria, i.e. level 1, level 2 and direct stability assessment as level 3. Still, a ship is only required to comply with one of those 3 levels. It means that for a ship, which complies with level 1, does not need to comply with level 2 or 3. However, a ship fails to comply with level 2 and 3 will be subject to the requirements of operational limitations and operational guidance.

However, so far, the inconsistency between levels 1 and 2 of vulnerability criteria has not been resolved. During discussion at this session, the Sub-Committee noted the view that without proper guidelines for direct stability assessment second generation intact stability criteria cannot be finalized.

Therefore, it was agreed that the levels 1 and 2 vulnerability criteria and the direct stability assessment could be finalized as a package.

Following the above agreement, the Sub-Committee decided to re-establish the Correspondence Group on Intact Stability (IS). The Correspondence Group is instructed to finalize a package of the levels 1 and 2 vulnerability criteria, and the guidelines for direct stability assessment and operational limitations and operational guidance at the next session.

E. MANDATORY INSTRUMENT AND/OR PROVISIONS ADDRESSING SAFETY STANDARDS FOR THE CARRIAGE OF MORE THAN 12 INDUSTRIAL PERSONNEL ON BOARD VESSELS ENGAGED ON INTERNATIONAL VOYAGES (AGENDA ITEM 7)

MSC 96 agreed to develop new chapter of SOLAS (Chapter XV) and associated Code in order to address issues on the carriage of more than 12 industrial personnel for the purpose of offshore activities and It was followed by the adoption of resolution MSC.418(97) on Interim Recommendations on the safe carriage of more than 12 industrial personnel on board vessels engaged on international voyages by MSC 97.

The work on the development of new chapter of SOLAS and associated Code was started at SDC 4 as the correspondence group on Carriage of more than 12 Industrial Personnel on board Vessels engaged on International Voyages was established and instructed to:

1. develop a matrix that identifies the relevant aspects of the existing IMO regulatory framework,
2. develop the draft new SOLAS chapter [XV];
3. consider the format and organization of the draft Code
4. develop the introduction and preamble for the Code
5. consider the impact that the service of the vessel may have on the total number of industrial personnel carried
6. develop the draft Code
7. submit a report to SDC 5

Taking into account the report of the Correspondence Group and discussion made, as well as the work of the Working Group established during this session, the Sub-Committee agreed, among others:

1. to not to include a definition of "passenger" applicable for the draft new SOLAS chapter [XV] only and concurred with the view that inclusion of some wording in the new SOLAS chapter [XV], stating that
2. industrial personnel are not considered to be passengers, would be sufficient to meet the "unless expressly provided otherwise" provisions of SOLAS chapter I
3. the draft new code is an add-on to SOLAS provisions;
4. the definition of the term "international voyage" should not be modified (i.e. definition in SOLAS regulation I/2(d));
5. that non-mandatory instruments should not be referenced in the aforementioned instruments, the relevant parts of the text should be reproduced instead; and
6. that with regard to training criteria for industrial personnel, the STCW Convention should not be referenced in the draft new code, relevant parts of the text should be reproduced in the code.
7. to seek clarification from MSC on some issues, e.g. whether the new SOLAS chapter [XV] and the draft new code should only be applicable to cargo ships.
8. to establish Correspondence Group to further develop draft new SOLAS chapter and new Code.

F. AMENDMENTS TO THE 2011 ESP CODE (AGENDA ITEM 8)

2011 ESP Code is updated regularly in order for the Code to be aligned with IACS Unified Requirement (UR) Z10. In doing so, SDC 4 authorized IACS and the Secretariat to review the 2011 ESP Code with a view to proposing editorial changes to identify all mandatory requirements and to improve the format of the tables and forms.

The proposals submitted by Secretariat and IACS were used as consideration for the Working Group established at this session to:

1. consider the new substantial amendments to the 2011 ESP Code, proposed by IACS in order to deal with the recent updates to the IACS UR Z10 series
2. prepare a draft MSC resolution on adoption of amendments to the 2011 ESP Code

The Working Group has prepared draft MSC resolution on Amendments to the 2011 ESP Code for submission to MSC 99 for approval. However, the consolidated version of the ESP Code could not be completed. Therefore, the Sub-Committee agree to invite the IMO Secretariat and IACS to work together intersessionally to further develop a new draft consolidated text of the ESP Code, taking into account the work done at this session, for submission to SDC 6.

G. UNIFIED INTERPRETATION TO PROVISIONS OF IMO SAFETY, SECURITY, AND ENVIRONMENT-RELATED CONVENTIONS (AGENDA ITEM 9)

Development of unified interpretation to clarify the safe return to port requirement for the liquid level monitoring systems

Having considered a concern on the application of the SOLAS safe return to port requirements for liquid level monitoring systems, where there are two opposite understandings on the issue as to whether the liquid level monitoring systems for tanks containing liquids, which are not installed with a flooding detection system, need to meet the safe return to port requirement in SOLAS regulation II-2/21.4.13.

In this regards, the Sub-Committee agreed to the view expressed by the majority of those that spoke on the matter that such systems should meet the safe return to port requirement and invited IACS to develop a unified interpretation, taking into account that there should be no retroactive application of the agreed understanding, and submit it for consideration at the next session.

Means of escape from control stations, accommodation and service spaces in case of flooding

The Sub-Committee considered document submitted by CLIA, providing the view that doors in vertical emergency escape trunks may open out of the trunk in order to permit the trunk to be used both for escape and for access, provided that such doors are not located below the bulkhead deck, and proposing a draft unified interpretation of SOLAS regulation II-2/13.3.1.5.2 regarding general requirements for means of escape from control stations, accommodation and service space in case of flooding.

Following discussion, the Sub-Committee, having supported the proposed draft interpretation, in principle, noted that SOLAS regulation II-2/13.3 applies to control stations, accommodation and service spaces, but not to machinery spaces and, therefore, agreed that the proposal should be considered as an amendment to SOLAS regulation II-2/13.3.1.5.2, rather than an interpretation.

The Sub-Committee, taking into account the intention of CLIA to also bring this matter to the attention of the fifth session of the Sub-Committee on Ship Systems and Equipment (SSE), requested the Secretariat to advise SSE 5 of the SDC 5's decision.

H. REVISED SOLAS REGULATION II-1/3-8 AND ASSOCIATED GUIDELINES (MSC.1/CIRC.1175) AND NEW GUIDELINES FOR SAFE MOORING OPERATIONS FOR ALL SHIPS (AGENDA ITEM 10)

In order to develop the draft revised SOLAS regulation II-1/3-8 and the associated draft Guidelines on the design of safe mooring arrangements; SDC 4 re-established a Correspondence Group on Safe Mooring Operations and instructed them to submit the report to SDC 5.

Having considered the report of correspondence group and the Working Group established at this session, SDC 5 made the following decision, among others:

1. New draft guidelines will include requirements for mooring lines
2. For ships less than 3,000 gross tonnage constructed on or after 1 January 2024 shall comply with the requirements of the Guidelines, as far as reasonably practicable, or with applicable national standards of the Administration which provide an equivalent level of safety
3. the draft amendments to SOLAS regulation II-1/3-8 will be submitted to MSC after being further review by SDC 6
4. The Correspondence Group on Safe Mooring Operations were re-established to work on remaining issues in the development of the Guidelines, e.g. the arrangement for mooring deck and the selection of appropriate mooring equipment, inspection and maintenance of mooring equipment including lines, etc.

I. GUIDELINES FOR WING-IN-GROUND CRAFT (AGENDA ITEM 11)

The Sub-Committee recalled that SDC 4 had agreed to continue promoting the work regarding the development of the draft Guidelines, as appropriate.

Based on the existing text of the Interim guidelines for wing-in-ground craft (MSC/Circ.1054 and Corr.1, and MSC/Circ.1126) and the draft amendments provided in the document submitted by China, and taking into account the comments made and decisions taken in plenary, the Sub-Committee instructed the Drafting Group to finalize the text of the draft Guidelines for wing-in-ground (WIG) craft.

In general, these Guidelines contain, among others:

- a. General requirements
- b. Interim recommendations
- c. Safety assessment and safety management
- d. Form of WIG Craft Safety Certificate and Record of Equipment
- e. Form of Permit to Operate WIG Craft

- f. Ice accretion applicable to all types of craft
- g. Methods relating to the intact stability investigation of hydrofoil assisted wing-in-ground craft
- h. Criteria for testing and evaluation of revenue and crew seats
- i. Procedures for demonstration of operational safety

the draft Guidelines for Wing-in-ground (WIG) craft and the associated draft MSC circular will be submitted to MSC 99 for approval.