

Report of SDC 8

Sub-committee on Ship Design and Construction

17th – 21st January 2022

International Maritime Organization (IMO), London headquarters

ITF delegation

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Working Group on ESP Code Amendments	Amar Singh Thakur (Adviser)
Working Group on Revision of the Performance Standards for Water Level Detectors (resolution MSC.188(79))	Karl Huss (Adviser)
Working Group on Underwater Noise Reduction	
Drafting Group on Intact Stability	Zillur Bhuiyan (Expert)
Drafting Group on Carriage of more than 12 Industrial Personnel on Board Vessels Engaged on International Voyages	Odd Rune Malterud (Adviser)
Expert Group on Development of Functional Requirements for SOLAS Chapter II-1	
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The Sub-committee on Ship Design and Construction (SDC) undertakes technical and operational matters related to ship design and construction, including subdivision and intact stability, testing and approval of construction and materials, safety of non-SOLAS vessels in polar water and ships' carriage of industrial personnel. The importance of the work of this IMO body is in direct relation to maritime professionals working and living conditions.

Outcome of this session and further work

1. Safety measures for non-SOLAS ships operating in polar waters¹

Neither SOLAS nor the draft guidelines for non-SOLAS ships operating in polar waters covered pleasure yachts not engaged in trade and cargo ships of 300 gt and above and less than 500 gt.

1.1 Further work

Safety guidelines will be for further development.

¹ Note that Maritime Safety Committee at its 103rd session, May 2021, Guidelines for safety measures for fishing vessels of 24 m in length and over operating in polar waters (MSC.1/Circ.1641) and Guidelines for pleasure yachts of 300 gross tonnage and above not engaged in trade operating in polar waters (MSC.1/Circ.1642) were approved.



2. Mandatory instrument and/or provisions addressing safety standards for the carriage of more than 12 industrial personnel² on board vessels engaged on international voyages

The interests important to the ITF are appropriate training to IPs in communicating with ship's crew to enhance safety and secure the safe transfer operation.

Until entry comes into force² of the new SOLAS Chapter XV; the *Interim Recommendations on the Safe Carriage of more than 12 Industrial Personnel on Board Vessels Engaged on International Voyages* (Resolution MSC.418(97)) allows ships to provide transfer services to IPs.

The 1st phase of developing mandatory instruments for carriage of IP has been finalised at this session by the followings:

- The safety requirements in transferring such personnel in different types of ships no matter whether it is new or existing ships;
- When a ship carries industrial personnel, the ship shall hold IP Safety Certificate and Record of Equipment for the IP Safety certificate on board, which should not affect the validity of other relevant SOLAS certificates; and
- The IP Safety Certificate prohibits the carriage of dangerous liquid chemicals in bulk when the total number of persons are more than 60.

2.1 Further work

- How to include passenger ships safety requirements in the application of the IP Code;
- At this stage, the number of people- including the IPs- a high-speed craft can carry is 60 maximum. In the 2nd phase, such vessel carrying more than 60 persons will be in focus;
- Provision of sleeping berths for IP on high-speed craft; and
- Consideration on guidance to clarify relations between SPS Code and the new IP Code.

3. Development of Explanatory Notes³ to the Interim guidelines on second generation intact stability criteria

As ship design and construction evolves, the need for considering stability criteria increases. *The draft explanatory notes to the interim guidelines on the second-generation intact stability criteria* (MSC.1/Circ.1627) has been finalised with new performance-based criteria.

The issue of second generation intact stability criteria (dynamic stability) and the vulnerability criteria for the five failure modes is important to prevent stability related ship accidents and for the safety of the seafarers onboard ships.

² Industrial personnel (IP) is those who employed to engaged in offshore facilities, such as wind farm, offshore oil rigs, etc. The maritime transport is the mode to transport them to where they work, thus the safety and security for them are under the scope of the IMO. The Code is going to be a new SOLAS chapter, meaning mandatory as of 1st January of 2024. The Code has a clear structure with goals, functional requirements and regulations for effective implementation.

³ In approving the interim guidelines (MSC.1/Circ.1627), it was recognised the necessity of developing associated explanatory notes to ensure uniform interpretation and application.

A Drafting Group modified section 3.3.2.1 (Modelling of waves) is in part B of the draft explanatory notes. This is regarding verification of the absence of self-repetition in the modelling of waves.

Interim Guidelines (MSC.1/Circ.1627) and the associated draft explanatory notes might need to be revised in the future following their expected approval.

4. Amendments to the 2011 ESP Code⁴

The 2011 ESP Code was amended to enhance consistent implementation of survey requirements. The draft amendments were finalised and the below are the takeaways at this session:

- Ballast tanks on all bulk carriers to be examined annually if the protective coating condition is found to be “POOR” to “less than GOOD”;
- In terms of frequency of double-skin void spaces bounding cargo holds in bulk carriers, due to the constraints relating to ship operations, insufficient evidence on corrosion at the time of discussion and different degrees of corrosion in ballast tank and void spaces, it was agreed to separate the requirements from ballast tanks in bulk carriers. As a result, exceeding 20 years of age and 150 m in length are to be examined annually when the protective coating is “POOR.” This was to use the lessons learned after the loss of MV Stellar Daisy; and
- Amended definition of oil tankers to clarify that the ESP Code does not apply to oil tankers carrying oil in independent tanks which are not part of ship’s hull.

5. Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III

An Expert Group was established to develop functional requirements and expected performance standards for electrical power supply to SOLAS chapter II-1, part D “Electrical Installations” taking into account alternative design for safe design and construction of ships.

The Group considered: FR 1: Provide sufficient power to electrical loads in normal and emergency condition; FR 2: Maintain electrical power supply in normal and emergency conditions; FR 3: Restore electric 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.

5.1 Further work by the Correspondence Group

- Update the tables of identified hazard sheet (Annex 3, SDC 8/9)
- Continue developing the draft goal, functional requirements and expected performances for SOLAS II-1, part C “Machinery Installations” and part E “Additional Requirements for Periodically Unattended Machinery Spaces”.

6. Unified interpretation to provisions of IMO safety, security, and environment-related conventions

⁴ The main intention of the Code is to ensure a sustainable comfort level on board ships for the seafarers during their rest, to avoid hearing damage during their work, and by this reduce the risk of human fatigue.

It was agreed to make a minor amendment to Paragraph 4.2.1 of *the Code on noise levels on board ships* (resolution MSC.337(91)) in order to ensure that it included the entire enclosed workshop in terms of the workshops and machinery spaces.

7. Revision of the 1979, 1989 and 2009 MODU Codes and associated MSC circulars to prohibit the use of materials containing asbestos, including control of the storage of such materials on board

A Correspondence Group has been established and the discussion was deferred to the next session, January 2023.

8. Development of amendments to SOLAS regulation II-1/3-4 to apply requirements for emergency towing equipment for tankers to other types of ships

This item was deferred to the next session, January 2023.

9. 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))

A new SOLAS Regulation II-1/25-1 requires new multiple-hold cargo ships to be fitted with water level detectors in each cargo hold.

The revised draft *Performance standards for water level detectors on ships subject to SOLAS regulations II-1/25, II-1/25-1 and XII/12* (resolution MSC.188(79)/Rev.1) was finalised, applicable to bulk carriers, single-hold cargo ships. The revised performance standard will be applicable from 1 January 2024.

10. Review of the Guidelines for the reduction of underwater noise (MEPC.1/Circ.833) and identification of next steps

Considering technological development in ship building and designing, underwater noise from ships is increasing due to anthropogenic activities and increasing impact on marine lives and communities which heavily rely on the marine environment.

It was agreed to review the 2014 *Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life* (MSC.1/Circ.833) due to a lack of use of the guidelines. At this session it was agreed for a work plan for review by year 2023, with work items including inter alia:

- noise measurement and monitoring over time;
- measures to further prevent and reduce underwater noise from ships, including the integration of new and advancing technologies and vessel designs; and
- measures to encourage to uptake and implementation of the guidelines.

10.1 Further consideration

There was a view expressed regarding regulatory measures. To make these Guidelines mandatory there must be adequate study and experience to prevent any potential ramifications.

The difficulties arose are how to measure and quantify underwater noise and its implication to marine organism. New proposals include developing measures to existing ships, however due to technical



availability as well as viability of the implication, the sub-committee discussed to set the scope to new building ships.

The association between underwater noise and GHG emissions was flagged, and it was agreed that more research needed to be conducted but not ruled out from this work.

At this session Inuit circumpolar council was first invited to express the implication of underwater noise to the indigenous community. This has been included in ToR of the Correspondence Group.

Action required

The ITF congratulates the finalisation of phase 1 of the development of the IP Code by reminding our continuous goals relating to this work as following at the next phase:

- it is the Master and officers who are in charge of the ship over their crew and IP;
- clarify the appropriate competences for the IP and medical fitness and appropriate manning;
- clarify the constructions and stability;
- clarify the fire and lifesaving equipment; and
- clarify provision of berths.

The ITF also supports the work of the review in the reduction of underwater noise. Simultaneously, we draw attention that the safety of ship at its current level should not be jeopardised while the work is carried out.

Ship design and construction as the first stage of ship's birth has an immense potential? to impact on the working and living conditions onboard as well as marine environment. It is recognised that the interconnection between each stage can have implications later in the process. Therefore, it is recommended for maritime professionals to be aware of such linkages and realise the importance of survey and inspection schemes required on board.