

KPI Information Update IU-58-2014
(Outcome of the IMO Sub-Committee on Ship Design and Construction)

The International Maritime Organization (IMO) held its 1st session of the *Sub-Committee on Ship Design and Construction*, from 20 to 24 January 2014 in London, headquarters. During the Sub-Committee important issues on Polar Code discussed and measures adopted as following:

1-►Draft mandatory Polar Code and amendments agreed in principle:

The draft text of the mandatory international code for ships operating in polar waters (Polar Code) and proposed draft amendments to IMO safety and pollution prevention treaties to make it mandatory, were agreed, in principle, by the Sub-Committee on Ship Design and Construction (SDC), which was meeting for its first session (following the restructuring of IMO Sub-Committees).

The draft Polar Code covers *the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.*

The draft Polar Code includes mandatory measures covering **safety part** (part I-A) and **pollution prevention** (part II-A) and recommendatory provisions for both (parts I-B and II-B).

The Code would require ships intending to operating in the defined waters of the Antarctic and Arctic to apply for a Polar Ship Certificate, which would classify the vessel as Category A ship - ships designed for operation in polar waters at least in medium first-year ice, which may include old ice inclusions; Category B ship - a ship not included in category A, designed for operation in polar waters in at least thin first-year ice, which may include old ice inclusions; or Category C ship - a ship designed to operate in open water or in ice conditions less severe than those included in Categories A and B.

The issuance of a certificate would require an assessment, taking into account the anticipated range of operating conditions and hazards the ship may encounter in the polar waters. The assessment would include information on identified operational limitations, and on plans or procedures or additional safety equipment necessary to mitigate incidents with potential safety or environmental consequences.

Ships would need to carry a **Polar Water Operational Manual**, to provide the owner, operator, master and crew with sufficient information regarding the ship's operational capabilities and limitations in order to support their decision-making.

The chapters in the Code each set out goals and functional requirements, to include those covering ship structure; stability and subdivision; watertight and weather-tight integrity; machinery installations; operational safety; fire safety/protection; life-saving appliances and arrangements; safety of navigation; communications; voyage planning; manning and training; prevention of oil pollution; prevention of pollution from noxious liquid substances from ships; prevention of pollution by sewage from ships; and prevention of pollution by discharge of garbage from ships.

The Sub-Committee agreed, in principle, to a draft new chapter XIV "Safety measures for ships operating in polar waters", of the International Convention for the Safety of Life at Sea (SOLAS), to make the Code (Introduction and part I-A) mandatory, for forwarding to the Maritime Safety Committee (MSC), which next meets in May, for consideration.

Also, proposed draft amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL), to make the Polar Code (Introduction and part II-A) mandatory under Annexes I (prevention of pollution by oil), II (noxious liquid substances), IV (sewage) and V (garbage) were also agreed, in principle, for forwarding

to the Marine Environment Protection Committee (MEPC), which next meets end of March/beginning of April.

The draft chapter of the Polar Code relating to training and manning will be referred to the Sub-Committee on Human Element Training and Watch-keeping (HTW), which meets in February, for further review, while the draft chapters on fire protection/safety and life-saving appliances will be referred to the Sub-Committee on Ship Systems and Equipment (SSE), which meets in March. The draft chapters on Safety of navigation and Communication will be referred to the Sub-Committee on Navigation, Communication and Search and Rescue (NCSR) in June/July. All three Sub-Committees will report on their work to the MSC and MEPC.

Work in developing the mandatory Polar Code followed the adoption by the IMO Assembly, in 2009, of recommendatory Guidelines for ships operating in polar waters (Resolution A.1024 (26)).

The main work on this code has been carried out by Sub-Committee on Ship Design and Construction (SDC), taking over from the Sub-Committee on Ship Design and Equipment (DE), which since 2010 has dedicated a substantive portion of its annual meeting to the matter. In between meetings, a polar code correspondence group has been following up the work. An inter-session meeting of the Polar Code Working Group was held in October 2013.



2-►Draft unified interpretations to the 1969 Tonnage Measurement Convention agreed:

The Sub-Committee agreed draft unified interpretations to the International Convention on Tonnage Measurement of Ships, 1969, intended to clarify the application of the Convention.

The circular, which will be forwarded to the MSC for approval, includes detailed interpretations related to definitions and calculations use to determine the gross tonnage of a ship. The draft interpretations update and supersede the previous circular, issued in 1994 as TM.5/Circ.5.

The meeting also discussed the development of a reduced gross tonnage parameter for accommodation spaces, and agreed to further work on this matter at the next session.

3-►Draft guidance for offshore wind farm vessels developed:

The Sub-Committee reviewed and further developed draft Guidelines for offshore service craft (OSC), intended to provide safety construction and other measures for OSC engaged in support and service for the construction and maintenance of offshore renewable-energy installations or structures and their related infrastructures; and draft Guidelines for offshore construction vessels (OCV), intended to provide guidance for the design and construction of new offshore wind farm construction vessels, with a view to promoting the safety of such vessels and their personnel, recognizing their distinct and innovative design features and service characteristics.

A correspondence group was established to finalize both sets of guidelines ahead of the next SDC session.

4-►Draft definition for industrial personnel developed:

The Sub-Committee noted a draft definition of "industrial personnel", developed by a working group, to mean "all persons who are not passengers or members of the crew or children of under one year of age and who

are transported or accommodated on board for the purpose of offshore industrial activities". The aim in developing the definition is to address the carriage of more than twelve industrial personnel on board vessels engaged on international voyages, in order to harmonize the current industry practice and differing national domestic requirements with the international regulatory framework.

The Sub-Committee invited the correspondence group on offshore wind farm vessels to develop guidance on how the definition of industrial personnel should be used in practice and agreed to recommend to the MSC that a definition of industrial personnel could, for now, be

included in the proposed guidelines for offshore wind farm vessels.

IMO mandatory instruments do not define industrial personnel, although the non mandatory Guidelines for the Design and Construction of Offshore Supply Vessels, 2006, and the 2008 Special Purpose Ship Code, restrict the carriage of industrial personnel on an international voyage to not more than twelve. More than twelve industrial personnel on board a vessel would, if considered in the context of the SOLAS Convention, require a passenger ship standard. The lack of a clear definition for industrial personnel and appropriate categorizations leads to different national interpretations.



5-► Amendments to SOLAS chapter II-1 agreed:

The Sub-Committee agreed, in principle, to the proposed amendments to SOLAS chapter II-1 subdivision and damage stability regulations, noting that further work was still needed in relation to some of the requirements.

Following discussion in a working group with regards to proposals to increase the

required subdivision index "R" for new passenger ships, the Sub-Committee agreed in principle to a moderate phase 1 increase, taking into account the number of people on board a ship.

The required subdivision index "R" is a formula used to determine the probability of survival of a ship, and is dependent on ship size, number of passengers or other factors. Important considerations are the probability of flooding each single compartment and

each possible group of two or more adjacent compartments; and the probability that the stability after flooding a compartment or a group of two or more adjacent compartments will be sufficient to prevent capsizing or dangerous heeling due to loss of stability or to heeling moments in intermediate or final stages of flooding.

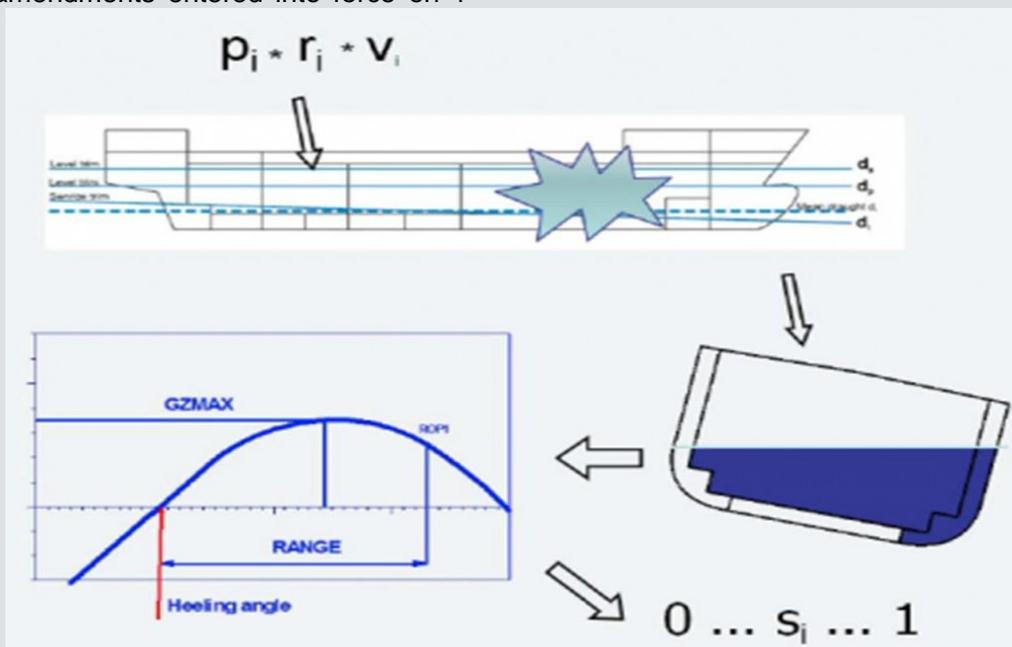
The harmonized SOLAS regulations on subdivision and damage stability, as contained in SOLAS chapter II-1, are based on a probabilistic concept which uses the probability of survival after collision as a measure of ships' safety in a damaged condition. The current revision of the regulations is taking into account a number of recent studies, such as the EU-funded GOAL based Damage Stability project (GOALDS)

A previous comprehensive revision of the regulations was completed in 2006 and those amendments entered into force on 1

January 2009. The focus of the current revision is on some of the calculations used to determine the probability of survival, particularly for passenger ships.

Safe return to port guidance and regulations discussed:

The Sub-Committee further considered matters related to safe return to port and agreed that a stepped approach should be taken on developing guidance for the approval of damage stability modules for safe return to port. In addition, the Sub-Committee agreed on the list of action items to be considered when further developing above guidelines. To progress the work intersessionally, the Sub-Committee established a correspondence group to further develop draft guidelines for the approval of damage stability modules for safe return to port, for consideration at SDC 2.



6-► Expansion of mandatory passenger evacuation analysis to all passenger ships agreed:

Following a review of current regulations relating to evacuation analysis for passengers, the Sub-Committee agreed that more time was necessary to consider

matters related to the development of amendments to SOLAS to make the application of evacuation analysis to new and existing passenger ships mandatory. SOLAS regulation II-2/13.7 mandates the conduct of evacuation analyses for Ro-Ro passenger ships and for other passenger ships, the relevant regulations and

guidelines are only applied on a voluntary basis or sometimes in the case of alternative design.

To expedite the consideration of this important issue, in light of the Costa Concordia accident, several delegations stated that they intended to submit a proposal to MSC 93 to expand the existing work on this matter, to include development of amendments to SOLAS to make evacuation analyses mandatory for all passenger ships.

7-► Protective location criteria for LNG fuel tanks endorsed:

The Sub-Committee endorsed draft protective location criteria for liquefied natural gas (LNG) fuel tanks, for inclusion in the draft international code of safety for ships using gases or other low-flash point fuels (IGF Code). The IGF Code is currently being developed, under the coordination of the Sub-Committee on Carriage of Cargoes and Containers (CCC) (formerly the Sub-Committee on Dangerous Goods, Solid cargoes and Containers (DSC)).



Development of second generation intact stability criteria continued:

The Sub-Committee continued its work on developing second generation intact stability criteria and agreed an updated action plan. The aim is to finalize draft second generation intact stability criteria at the next session, so that they can be circulated, in order to encourage Member States to apply the draft second generation intact stability criteria and submit the experience gained to the Sub-Committee.

The correspondence group was re-established to further the work, including finalizing the draft text of amendments to the 2008 Intact Stability (IS) Code regarding vulnerability criteria and standards. The 2008 IS Code provides both mandatory requirements and recommended provisions relating to intact stability.

8-► Unified interpretations agreed:

The Sub-Committee agreed draft unified interpretations, for submission to the MSC for approval, relating to the application of the Performance standard for alternative means of corrosion protection for cargo oil tanks of crude oil tankers (resolution MSC.289(87)); and the application of the Performance standard for protective coatings for cargo oil tanks of crude oil tankers (PSPC-COT) (resolution MSC.288(87)).