

Report of SSE 7

Sub-committee on Ship Systems and Equipment

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International Maritime Organization (IMO), London headquarters

ITF delegation

Head of delegation	Branko Berlan
Working group on Life-Saving Appliances (LSA)	Kenny Reinhold (adviser)
Working group on Fire Protection (FP)	James MacDonald (expert) Mikael Huss (expert)
Working group on Onboard Lifting Appliances and Anchor Handling Winches (OLAW)	Odd Rune Malterud (expert) Peter Lahay (adviser)
Experts Group on Safety Objectives and Functional Requirements for SOLAS chapter II-1 and cold ironing of ships	Branko Berlan
IMO Liaison Assistant	Jihyeon Gina Kim



The Sub-committee on Ship Systems and Equipment (SSE) undertakes technical and operational matters relating to ships' systems and equipment also of vessels, crafts and mobile units, such as life-saving equipment, appliances and arrangements, fire protection, onboard lifting appliances and anchor handling winches. The Sub-committee ensures systems and equipment aboard are regulated to enhance safety of lives and ship, security of cargo and prevention of marine environment.

The Sub-committee at this session considered the following agendas:

- Amendments on evaluation and test report forms of the International Life Saving Appliance (LSA) Code;
- Ventilation requirements for survival craft;
- Draft interim guidelines on fire safety on ro-ro ships;
- Draft guidelines on lifting appliances;
- Draft guidelines on anchor handling winches; and
- Draft Interim Guidelines on Safe Operation of Onshore Power Supply (OPS) Service in Port for Ships Engaged on International Voyages



Working Group on Life-Saving Appliances

Life-saving appliances (LSAs) are lifeboats, liferafts, lifebuoys, life-jackets and more, including items to signal your location. Needless to say, legal requirements for such equipment shall be stringent and systematic. Besides, the requirements must mandate thorough testing mechanism considering various nature of ships particulars.

IMO updates the LSA Code and SOLAS Chapter 3 *Life-Saving Appliances* regularly to ensure a habitable environment is maintained throughout an emergency situation. The regulations mandate a ship to be equipped with properly tested and approved LSAs. Furthermore, it has been widely recognised the ventilation of such craft is critical for survival of lives in distress.

The Sub-committee will further look into statutory measures for such appliance for ships navigating in polar waters.

Outcome of the Group

1. MSC.1/Circ.98 *Standardized Life-Saving Appliance Evaluation and Test Report Forms* provides the Administration or relevant parties - manufacturers, test facilities, owners and surveyors - which evaluate and conduct testing of LSAs of a ship. To facilitate the applicability of provisions, the document was divided into six separate Circulars that are corresponding to relevant LSA Code Chapters.

2. The resolution MSC.81(70) *Revised recommendation on testing of life-saving appliances* is under revision. At this session ventilation of enclosed lifeboats was developed. Further amendments will be continued in the next session of the Sub-committee. The amendments will be finalised in 2021 and enter in to force in 2024.

3. During ventilation performance test of a lifeboat, ventilation rate should be checked (> 5.5m³/hr/person). The ship should be moored. Only necessary number of persons for the test should be presented.

Further work

1. Amendments to the resolution MSC.81(70) *Revised recommendation on testing of life-saving appliances* will be continued, in particular safe ventilation requirements for liferafts will be thoroughly considered.

2. Referring to the International Code for Ships Operating in Polar Waters (Polar Code), expected maximum time of rescue and anticipated performance of life-saving appliances were raised and agreed to discuss in the next session. From 2nd quarter to until the end of 2020, the ITF participate in a Correspondence Group on Safety measures for non-SOLAS ships operating in polar waters under the Sub-committee on Navigation, Communication and Search and Rescue (NCSR). The outcome of the Group should be liaised with SSE 8.

Working Group on Fire Protection

Fires on ro-ro passenger ships put lives in a great deal of danger and severe environmental damages. In order to enhance safety on ro-ro passenger ships against the high risk of fire in ro-ro spaces and special



category spaces, SOLAS Chapter II-2 *Fire Protection* and the International Fire Safety Systems Code (FSS Code) are under revision to introduce better protection measures.

Outcome of the Group

1. It has been a year since the adoption of the *Interim guidelines for minimizing the incidence and consequences of fires in ro-ro spaces and special category spaces of new and existing ro-ro passenger ships* (MSC.1/Circ.1615). The Group reviewed the document to enhance practicality that will be applicable for new building ships.
2. The discussion about the safety distance between the position of deck openings and the position of LSAs and embarkation points could be kept short. Such requirement will be only applicable for new building ships.
3. The Group finalised draft amendments to chapter 9 of the FSS Code. As for seafarers, it is essential to be familiarised with the ship's fire safety plan such as location of fire and smoke detectors, alarm systems and fire extinguishing equipment. Consequently, periodic maintenance is critical for one's own safety.
4. The *Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces* (MSC.1/Circ.1430/Rev.1) was finalised as well.

Further work

1. The effectiveness of MSC.1/Circ.1615 will be reviewed as sufficient experience gained in due course. The ITF will ensure that further fire-fighting training requirements to be taken into consideration.
2. One of the utmost important proposals for the ITF, considering a growth in lithium-ion battery in automobiles, developing safety measures of lithium-ion battery vehicles on ro-ro ships was proposed. 103th session of Maritime Safety Committee (MSC 103), in November 2020, will be invited to adopt the urgency of this matter and instruct relevant Sub-committees. The ITF should actively participate.
3. As a new agenda, *amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 addressing fire protection of control stations on cargo ships*, was agreed for the next session. It was agreed the urgency of this work for the sake of safety of seafarers.
4. In relation to marine environment, consideration on the *Revised Guidelines for the maintenance and inspection of fire protection systems and appliances* (MSC.1/Circ.1432), report to MSC 103 asking for a new output. Seafarers play significant roles for maintenance and inspections, thus the ITF should actively participate in the discussion.
5. The *Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems* (MSC.1/Circ.1318) are going to be reviewed to clarify the hydrostatic testing regime for high-pressure CO2 cylinders.
4. The revision of the *Guidelines for the approval of fixed dry chemical powder fire-extinguishing systems for the protection of ships carrying liquefied gases in bulk* (MSC.1/Circ.1315) will be continued considering methods:
 - a jet fire test;
 - pool fire test; and



- to delete or note delete thermogravimetric analysis (TGA).

5. Further regarding the revision of MSC.1/Circ.1315, sufficient proofs that sodium-based dry powders are better than potassium-based or other powders will be provided. The ITF will develop our position based on the scientific evidence that do not jeopardise fundamental safety and practicality.

Working Group on Onboard Lifting Appliances and Anchor Handling Winches

Handling of such equipment is considered highly risky operation onboard at sea and port. Accidents related to lifting appliances and anchor handling winches, which have caused harm to seafarers and dock workers and damage to ships, cargo, shore-based structures and subsea structures, as well as to the marine environment.

The ILO Convention 152 *Occupational Safety and Health (Dock Work) Convention, 1979* was mere international standards for Onboard Lifting Appliances and Anchor Handling Winches (OLAW). Developing draft *Guidelines for lifting appliances* and draft *Guidelines for anchor handling winches* is aimed to cover technical and operational aspects.

The two-set Guidelines will complement a new SOLAS regulation II-1/3-13, under development.

Outcome of the Group

1. The draft SOLAS regulation requires the application, design and construction, operation, inspection, testing and maintenance of onboard lifting appliances and anchor handling winches.

2. The two-set Guidelines considered the follow realms, to supplement the new SOLAS regulation:

- Safe working load;
- Certification of lifting appliances;
- Application of certification to existing lifting appliances;
- Record of testing and thorough examination;
- Maintenance, inspection and operational testing; and
- the Definitions used in the draft Guidelines for anchor handling winches, in particular “competence person” and “automatic”.

3. To underscore professional competence required during the operation and facilitate smooth communication between ship and shore. The ITF delegation successfully revised the definition of “competent person” and the meaning of “personnel” under the draft new SOLAS regulation II-1/3-13:

2.1 Competent person means a person possessing the knowledge and experience required for the performance of duties specified in these guidelines and acceptable as such to the Administration.

3.6.1.1 Personnel operating lifting appliances should be qualified and be familiarized with the equipment and be authorized by the master.

Further work

1. The Guidelines for anchor handling winches will continuously be developed. The ITF has been in the work since the beginning, thus the participation will continue through a correspondence group and the Working Group in the next session.



2. Facilitation Committee and the Sub-committee on Human element, Training and Watchkeeping (HTW) will be invited to consider training and familiarisation of shipboard and shore-based personnel.

3. There have been many incidents and accidents cases due to elevators, which is a type of lifting appliance onboard. The SSE, in cooperation with the Sub-committee on Implementation of IMO Instruments (III) Maritime Casualty Investigation reports, will be expected to develop a design, construction and operation measures. III 7 will be discussing this matter if there are relevant submissions proposing new outputs.

Experts Group on Safety Objectives and Functional Requirements for SOLAS chapter II-1 and Cold Ironing of Ships

The industry has been striving to find the most appropriate alternative fuels. On-Shore Power Supply (OPS), in other words "Cold ironing" "alternative maritime power" and "shore-side electricity", is one of options the industry is focusing on. However, there are safety related concerns in handling electricity that must be taken into account.

The Group was instructed to draft *Interim Guidelines on Safe Operation of On-Shore Power Supply (OPS) Service in Port for Ships Engaged on International Voyages* to provide standardised regulatory measures when regulating the continuous growth of such operations.

Considering the power supply coming from land, the standards should apply corresponding ones of the International Electrotechnical Commission (IEC), such as a definition of high voltage hence the IEC standards being already covered in shore-operations.

As for the ITF, role of operational personnel and training and qualification related matters are of interests:

1. who are involved in the operation;
2. how to qualify those personnel; and
3. the importance of familiarisation of all persons onboard.

Outcome of the Group

1. The *Interim Guidelines on Safe Operation of On-Shore Power Supply (OPS) Service in Port for Ships Engaged on International Voyages* was drafted. Further, the HTW was invited to consider the training and certification matters during OPS operations for finalisation of the Interim document.

2. Information on ship and port facility security level is imperative for Master to consider whether to use the onshore electrical power supply service or ship's own. SOLAS Chapter XI-2 and the International Ship and Port Facility (ISPS) Code already requires such communication form as part of security declaration.

Further work

1. The establishment of correspondence group was agreed to develop goals, functional requirements and expected performance for SOLAS chapter II-1, taking into account MSC.1/Circ.1212/Rev.1 *Revised Guidelines on Alternative Design and Arrangements for SOLAS Chapters II-1 And III*. The issue is that the extent of the group's work is directly related to the Sub-Committee on Ships Design and Construction (SDC), thus it needs, as an urgent matter, the approval of MSC 102 to approve liaison of the correspondence group with SSE 8 and SDC 8.



Other significant outcomes

1. The Code of Safety for Diving Systems, 1995 (Diving Code) recommends design criteria, and construction, equipment and survey standards for diving systems so as to minimise the risk to divers, personnel, ships and floating structures having such systems on board and to facilitate the international movement of such ships and floating structures in the context of diving operations. The Code will be under comprehensive review process for significant revisions. The importance of this work is critical importance for seafarers and any persons onboard in distress situation. The ITF participates in the work.

2. During the session there was a presentation by the International Union of Marine Insurance (IUMI) regarding container fire safety. The ITF shares concerns on the safety of seafarers at sea, as well as dock and port workers, thus the cooperation was agreed.

3. SOLAS Chapter II-2 regulation 9.2.2.3.2.2(9) provides construction and location requirements of access to pantry without cooking appliances in accommodation space. This could be misinterpreted and eventually raises risks of fire, a unified interpretation (UI) was approved as followed:

"Isolated pantries containing no cooking appliances in accommodation spaces" are pantries enclosed in an accommodation space and are only accessible from accommodation spaces and/or open deck.

Action requested

LSAs, fire protection systems and equipment, OLAWs and ship power supply systems, regardless types of systems and equipment or how state of the art they are, there are three key messages global maritime workers must know:

First, seafarers and dockers are not new to transitions that new paradigm brings in. De facto, we have been experiencing and adapting on job. Thus, we know.

Second, we should learn and know to secure our lives. Protecting maritime workers lives means saving ship's life and global environment. Appropriate education and training are indispensable. The ITF delegation endeavours to address such education and training not to jeopardies safety and wellbeing.

Third, the outcome of the IMO body has meaning. However, it becomes far meaningful when our experience and voices are presented. Report any problems you encounter on deck, in engine room or in galley, etc.

*Aforementioned IMO documents can be provided if requested.