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EQUIPMENT
1st session
Agenda item 21

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DRAFT REPORT TO THE MARITIME SAFETY COMMITTEE

1 GENERAL

1.1 The Sub-Committee on Ship Systems and Equipment (SSE) held its first session from 10 to 14 March 2014 under the chairmanship of Dr. S. Ota (Japan), who was unanimously elected as Chairman for 2014 at the opening of the session. The Vice-Chairman, Mr. K. Hunter (United Kingdom), who was unanimously elected as Vice-Chairman for 2014 at the opening of the session, was also present.

1.2 The session was attended by delegations from Members Governments and Associate Members of IMO; representatives from United Nations and specialized agencies; and by observers from intergovernmental organizations and non-governmental organizations in consultative status, as listed in document SSE 1/INF.1.

Opening address

1.3 The Secretary-General, after having expressed his sincere sympathies to those affected by the Malaysian Airlines incident, welcomed participants and delivered his opening address, the full text of which can be downloaded from the IMO website at the following link: <http://www.imo.org/MediaCentre/SecretaryGeneral/Secretary-GeneralsSpeechesToMeetings>

Chairman's remarks

1.4 In responding, the Chairman thanked the Secretary-General for his words of guidance and encouragement and assured him that his advice and requests would be given every consideration in the deliberations of the Sub-Committee.

Adoption of the agenda and related matters

1.5 The Sub-Committee adopted the agenda (SSE 1/1) and agreed to be guided in its work, in general, by the annotations contained in documents SSE1/1/1 and SSE 1/1/1/Corr.1 (Secretariat) and the arrangements in document SSE 1/1/2 (Secretariat). The agenda, as adopted, together with the list of documents considered under each agenda item, is set out in document SSE 1/INF.[...].

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by MEPC 65, MSC 92, STW 44, DSC 18, C 110, A 28 and SDC 1, as reported in documents SSE 1/2, SSE 1/2/1 and SSE 1/2/2 (Secretariat) and took them into account in its deliberations when dealing with the relevant agenda items.

2.2 The Sub-Committee also noted that the Council, at its 110th session, approved the Committees' decision to request the Secretariat to make the necessary changes to the IMODOCS website to reflect the new sub-committee structure, while also maintaining access to documents under the current sub-committee structure.

2.3 The Sub-Committee further noted that the Assembly, at its twenty-eighth session, approved the *Strategic plan for the Organization (for the six-year period 2014 to 2019)* (resolution A.1060(28)) and the *High-level Action Plan and priorities for the 2014-2015 biennium* (resolution A.1061(28)).

3 DEVELOPMENT OF REQUIREMENTS FOR SHIPS CARRYING HYDROGEN AND COMPRESSED NATURAL GAS VEHICLES

General

3.1 The Sub-Committee recalled that FP 56 developed draft amendments to SOLAS regulations II-2/1 and II-2/3 and new SOLAS regulation II-2/20-1 concerning requirements for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion, all of which were approved at MSC 92, with a view to adoption at MSC 93.

3.2 The Sub-Committee also recalled that FP 56 agreed to further consider the draft MSC circular on Recommendation on safety measures for existing pure car carriers transporting motor vehicles with compressed hydrogen or natural gas in their tanks for their

own propulsion, which was developed in support of the aforementioned draft amendments to SOLAS.

3.3 The Sub-Committee had for its consideration document SSE 1/3 (Japan), proposing a revised draft Recommendation on safety measures for existing vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo.

3.4 In considering document SSE 1/3, the Sub-Committee noted the following views expressed on this matter:

- .1 the ship's crew should only check that isolation valves are closed and that there is no smell of gas, as it is impractical for the crew to check for gas leakage from vehicles; and
- .2 the shipper should be responsible for checking the condition of the vehicle prior to shipment and confirm that gas tightness checks have been performed, which should be indicated by signage or stickers on the vehicle.

Establishment of a working group

3.5 Recalling the relevant decision at MSC 92, the Sub-Committee established the Working Group on Fire Protection and instructed it, taking into account comments made in plenary, to consider matters related to safety measures for existing vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo, taking into account document SSE 1/3, and advise the Sub-Committee on how best to proceed (see also paragraphs 5.[...], 6.[...] and 17.[...]).

Report of the Working Group on Fire Protection

3.6 Having considered the report of the working group (SSE 1/WP.3), the Sub-Committee approved it in general and took action as described in the following paragraphs.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

4 DEVELOPMENT OF AMENDMENTS TO SOLAS REGULATION II-1/40.2 CONCERNING GENERAL REQUIREMENTS ON ELECTRICAL INSTALLATIONS

General

4.1 The Sub-Committee recalled that DE 57 supported, in principle, a proposal in document DE 57/5 (Denmark) for amendments to SOLAS regulations II-1/45 and the HSSC Guidelines to ensure that electrical installations on board ships are manufactured and maintained according to relevant and recognized electrical standards, in order to provide a sufficient safety level and protection against fire on board ships.

4.2 The Sub-Committee also recalled that DE 57, noting concerns regarding the use of vague terminology, invited Member Governments and international organizations to submit comments and proposals on the matter.

4.3 The Sub-Committee had for its consideration document SSE 1/4 (Denmark), proposing to amend SOLAS regulation II-1/45, to ensure that electrical installations on board ships are manufactured and maintained according to relevant and recognized electrical standards in order to provide a sufficient safety level and protection against fire on board ships.

4.4 In considering document SSE 1/4, the Sub-Committee, having noted the views expressed that the existing SOLAS regulations remain fit for purpose and that issues related to maintenance of such systems are adequately addressed by the ISM Code, decided not to proceed with amendments to SOLAS regulations II-1/45.

4.5 In this regard, the observer from ITF made a statement that the Sub-Committee should seek to extend the work on this agenda item to cover electrical considerations in line with SOLAS regulation II-1/40.2 for passenger ship safety and also consider the possible amendments required to SOLAS regulation II-1/42. The full text of their statement is set out in annex [...].

Completion of the work on the output

4.6 In view of the above decision, the Sub-Committee invited the Committee to note that the work on this output had been completed.

5 SMOKE CONTROL AND VENTILATION

General

5.1 The Sub-Committee recalled that FP 46, when finalizing MSC/Circ.1034 on *Guidelines for smoke control and ventilation systems for internal assembly stations and atriums on new passenger ships*, decided that it should deal with the issue of interaction between smoke control systems and fixed fire-extinguishing systems at a future session.

5.2 The Sub-Committee also recalled that FP 56, having considered a proposal by the Correspondence Group on Development of requirements for the fire resistance of ventilation ducts (re-established at FP 55) to develop guidance on the safety objectives, functional requirements and performance standards for smoke management systems and smoke dampers on cargo and passenger ships, decided to include an agenda item on "Smoke control and ventilation" in the provisional agenda for SSE 1.

5.3 The Sub-Committee had for its consideration the following documents:

- .1 SSE 1/5 (Germany), containing draft performance standard and functional requirements for smoke management systems and suggesting such systems be designed with a view to maintaining sufficiently smoke-free escape ways within public areas, internal assembly stations, safe areas and staircases; and
- .2 SSE 1/5/1 (China), providing comments on the draft performance standards and functional requirements set out in document SSE 1/5 and proposing to conduct further work with a view to developing a complete set of performance standards, once the functional requirements are finalized.

5.4 In considering the above documents, the Sub-Committee noted the following views expressed on this matter:

- .1 the matter is related to evacuation analysis and, therefore, the goal-based concept may need to be applied;
- .2 guidance for crew on actions to be taken in different situation should be developed; and

- .3 the matter is very complex and, therefore, a significant amount of work is still necessary before this work can be finalized.

Instructions to the Working Group on Fire Protection

5.5 Having considered the above views, the Sub-Committee instructed the Working Group on Fire Protection, established under agenda item 3 (Development of requirements for ships carrying hydrogen and compressed natural gas vehicles), taking into account the comments and decisions made in plenary, to consider the draft performance standard and functional requirements for the assessment of smoke management system, as set out in the annex to document SSE 1/5, taking into account document SSE 1/5/1, and advise the Sub-Committee on how best to proceed.

Report of the Working Group on Fire Protection

5.6 Having considered the part of the report of the Working Group on Fire Protection (SSE 1/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

6 DEVELOPMENT OF AMENDMENTS TO SOLAS REGULATION II-2/20 AND ASSOCIATED GUIDANCE ON AIR QUALITY MANAGEMENT FOR VENTILATION OF CLOSED VEHICLE SPACES, CLOSED RO-RO AND SPECIAL CATEGORY SPACES

Background

6.1 The Sub-Committee recalled that FP 56 established a correspondence group to further consider proposed draft amendments to SOLAS regulation II-2/20 and the associated draft MSC circular, as contained in document FP 56/17, taking into account the additional safety aspects raised at FP 56 (FP 56/23, paragraph 17.4).

Report of the correspondence group established at FP 56

6.2 The Sub-Committee, having considered the report of the correspondence group established at FP 56 (SSE 1/6), approved the report in general and noted the following views expressed on this matter:

- .1 that the new SOLAS regulation II-2/20-1 is applicable regardless of installation of the air quality management system;
- .2 that amendment to SOLAS regulation II-2/20.3.2.2, which permits ten air changes per hour as an alternative to the use of explosion proof electrical equipment, might be appropriate;
- .3 with regard to MSC/Circ.729, different views were expressed on the maximum response time for gas detection and normal levels of CO and NO₂ in protected spaces; and
- .4 that Norway advised that it should not be included in the list of participants as it did not participate in the work of this correspondence group.

6.3 The Sub-Committee, having considered the actions requested in paragraph 16 of the group's report, took the following decisions:

- .1 noted the group's observation that both fire safety and personnel protection from harmful gases are currently included in SOLAS regulation II-2/20 and the Design Guidelines (MSC/Circ.729), while the draft amended SOLAS regulation II-2/20.3 was prepared to take into account only flammable gases and vapours;
- .2 with regard to the applicability of air quality management to the new SOLAS regulation II-2/20-1, noted the view expressed by delegations of Japan and Spain that the above regulation is not related to ventilation itself and, therefore, does not need to be amended, and agreed that this matter should be further considered by the Working Group on Fire Protection;
- .3 with regard to the two alternative proposed draft amendments to SOLAS regulation II-2/20.3, noted the view expressed by IACS that a clear application statement should be added and decided to instruct the Working Group on Fire Protection to further consider this issue;
- .4 noted the group's view that the Design Guidelines (MSC/Circ.729) should be updated as a whole;

- .5 with regard to the maximum response time for gas detection and the maximum gas concentration admissible in protected spaces, agreed that this matter should be further considered by the Working Group on Fire Protection;
- .6 with regard to the need to establish normal levels of CO and NO₂ in the guidelines to assess air quality systems approval, decided that this matter should be finalized by the Working Group on Fire Protection; and
- .7 noted the concern expressed by Germany, which was supported by ICS, regarding health hazards involved when reducing the ventilation, as well as the need for measuring gases and vapours that could be dangerous to members of crew when controlling ro-ro spaces and decided to instruct the Working Group on Fire Protection to further consider this issue.

Instructions to the Working Group on Fire Protection

6.4 Following the above discussion, the Sub-Committee instructed the Working Group on Fire Protection, established under agenda item 3 (Development of requirements for ships carrying hydrogen and compressed natural gas vehicles), taking into account the comments and decisions made in plenary, to:

- .1 consider whether the proposed air quality management system should also be applicable for the new SOLAS regulation II-2/20-1 and advise the Sub-Committee accordingly;
- .2 finalize the draft amended SOLAS regulation II-2/20.3; and
- .3 decide upon the value of maximum response time for gas detection and the levels of CO and NO₂ in protected spaces and finalize the draft amendments to MSC/Circ.729.

Report of the Working Group on Fire Protection

6.5 Having considered the part of the report of the Working Group on Fire Protection (SSE 1/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

7 DEVELOPMENT OF LIFE SAFETY PERFORMANCE CRITERIA FOR ALTERNATIVE DESIGN AND ARRANGEMENTS FOR FIRE SAFETY (MSC/CIRC.1002)

General

7.1 The Sub-Committee recalled that MSC 90, having considered document MSC 90/25/3 (United States) proposing an unplanned output to develop agreed life safety performance criteria to be used in fire modelling carried out in conjunction with the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002), agreed to include in the post-biennial agenda of the Committee an output on "Development of life-safety performance criteria for alternative design and arrangements for fire safety (MSC/Circ.1002)", with one session needed to complete the item.

7.2 The Sub-Committee also recalled that MSC 92 had decided to place this output on the agenda for SSE 1.

7.3 The Sub-Committee had for its consideration the following documents:

- .1 MSC 90/25/3 (United States), providing the view that inclusion of minimum established life-safety performance criteria in the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002) will ensure consistent results of evaluations of proposals for alternate design and arrangements;
- .2 SSE 1/7 (IACS), providing comments to the proposals in document MSC 90/25/3 and suggesting that further guidance should be developed, and included in MSC/Circ.1002, on how the different types of performance criteria that are required to be agreed (paragraph 6.3.4 of the annex to MSC/Circ.1002) should be sourced, justified, selected and applied, when conducting an alternative design approach;
- .3 SSE 1/7/1 (China), proposing recommendations on revision of performance criteria in the *Guidelines on alternative design and arrangements for fire*

safety (MSC/Circ.1002) and recommending to develop the rules for determination of safety evacuation on the basis of the added index of life safety criteria and increase the application of safety factors in order to facilitate the achievement of life safety objective; and

- .4 SSE 1/INF.6 (China), providing the detailed background information of the study on life safety performance criteria.

7.4 In considering the above documents, the Sub-Committee noted the following views expressed on this matter:

- .1 that further development of the performance criteria is needed;
- .2 the proposals in document SSE 1/7/1 should be considered in detail from a technical point of view; and
- .3 the consideration of this matter may be combined with the agenda item on "smoke control and ventilation".

Establishment of a correspondence group

7.5 Following discussion, the Sub-Committee decided to establish a Correspondence Group on Development of Life Safety Performance Criteria for Alternative Design and Arrangements for Fire Safety (MSC/Circ.1002), under the coordination of the United States¹, and instructed it, taking into account documents MSC 90/25/3, SSE 1/7, SSE 1/7/1 and SSE 1/INF.6, to:

- .1 review available research, accepted methodologies, and available standards with regard to the allowable levels of fire effluents considered

¹

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safe for human exposure to address paragraph 6.3.4.1 of the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002);

- .2 consider if the safety margins employed in shoreside building design are adequate for use on ships, taking into account the differences in shipboard means of escape and the availability of trained crew members to assist with the evacuation;
- .3 develop appropriate framework for assessment of minimum life-safety performance criteria and safety margins to address the survivability of passengers and crew exposed to the effects of heat, smoke, toxicity, reduced visibility, etc. in relation to evacuation time; and
- .4 submit a report to SSE 2.

Extension of the target completion year

7.6 Consequently, the Sub-Committee invited the Committee to extend the target completion year for this output to 2015.

8 DEVELOPMENT OF A NEW FRAMEWORK OF REQUIREMENTS FOR SAFETY OBJECTIVES AND FUNCTIONAL REQUIREMENTS FOR THE APPROVAL OF ALTERNATIVE DESIGN AND ARRANGEMENTS FOR SOLAS CHAPTERS II-1 (PARTS C, D AND E) AND III

General

8.1 The Sub-Committee recalled that DE 57 agreed, in principle, to the *draft Goal-based guidelines on a framework of requirements for ships' life-saving appliances* (DE 57/WP.5, annex 1) and decided that the outcome of the work of the LSA Working Group, established at DE 57, related to the work plan for the development of safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III* will be presented in part 2 of the report of the group (DE 57/WP.5/Add.1), for consideration by SSE 1.

8.2 The Sub-Committee also recalled that DE 57 agreed that the draft guidelines should be submitted to the Committee for approval once the work on the development of safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III* has been finalized.

Outcome of other IMO bodies

8.3 The Sub-Committee was advised that the following parts of the draft guidelines were referred to the HTW and NSCR Sub-Committees for further consideration: functional requirements related to the human element, communication and search and rescue. In this regard, the Sub-Committee noted the information provided verbally by the Secretariat that HTW 1 had no further comments on the functional requirements in Tier II of the *draft Goal-based guidelines on framework of requirements for ships' life-saving appliances*.

Second part of the report of the LSA Working Group established at DE 57

8.4 The Sub-Committee, having considered document DE 57/WP.5/Add.1 (Japan), containing the second part of the LSA Working Group's report and noted in particular:

- .1 the group's view that Failure Mode and Effect Analysis (FMEA) is just one of the analysis tools and that the analysis tools should not be restricted; and
- .2 the group's conclusion that gap analysis would be important at this stage, in addition to a revision of the issue raised by the Industry Lifeboat Group (ISWG LRH/2/3), in order to identify the actual matters that need to be considered under the scope of this output,

decided that the work plans for LSA requirements and for SOLAS chapter II-1 (DE 57/WP.5/Add.1, annexes 1 and 2) need to be further developed at this session.

8.5 The Sub-Committee had for its consideration the following documents:

- .1 SSE 1/8 (Japan), providing the information on the outcome of investigation of the LSA requirements in the SOLAS Convention taking into account the *draft Goal-based guidelines on framework of requirements for ships' life-saving appliances* and proposing some modifications to improve the draft guidelines;
- .2 SSE 1/8/1 (ICS, *et al.*), containing information on the gap analysis conducted by industry associations to support the development at Tier 4 and Tier 5 of the goal based framework for LSA and highlighting the concern on practical implementation of MSC.1/Circ.1392;

- .3 SSE 1/8/2 (Germany), informing of the observations, detected while trying to map the current requirements pertaining to life-saving appliances in SOLAS;
- .4 SSE 1/8/3 (ILAMA), supporting document MSC 92/13/3 (Dominica) and the proposed amendments for paragraphs 6.2.6.5 and 6.2.7.5 of the new requirements for operational testing of davit-launched lifeboat and rescue boat on-load and off-load release gear;
- .5 SSE 1/8/4 (China), providing the results of an investigation of SOLAS chapter III requirements based on *draft Goal-based guidelines on a framework of requirements for ships' life-saving appliances*, as contained in document SSE 1/8, and proposing modifications to the draft guidelines;
- .6 SSE 1/INF.2 (Japan), providing the texts in part B of SOLAS chapter III sorted out for respective functional requirements and parameters specified in the *draft Goal-based guidelines on framework of requirements for ships' life-saving appliances*; and
- .7 SSE 1/INF.5 (Germany), proposing to develop the new framework for SOLAS chapter III using a structured approach for subdividing functions into a functional map by making use of the related current safety standards.

Investigations of the LSA requirements in the SOLAS Convention, the LSA Code and the referenced MSC circulars

8.6 The Sub-Committee, having considered documents SSE 1/8, SSE 1/INF.2, SSE 1/8/2, SSE 1/INF.5 and SSE 1/8/4 and noted the following views:

- .1 that there should be a document supporting the implementation of life-saving appliance requirements in general, similar to other provisions in SOLAS that have supporting explanatory notes and background information, which would assist when implementing such provisions (SSE 1/8/2, paragraph 25); and
- .2 that the issue related to helicopter landing and pick-up areas (SSE 1/8/2, paragraphs 13 to 16) may require a new unplanned output,

and endorsed the proposal in paragraph 25 of document SSE 1/8/2 and invited MSC 93 to note the aforementioned proposal in the context of its work on the application of amendments to the 1974 SOLAS Convention.

Evaluation of existing on-load release and retrieval systems

8.7 In introducing document SSE 1/8/1, the Sub-Committee noted the concerns expressed by the co-sponsors regarding the application of the *Guidelines for the evaluation of existing on-load release and retrieval systems* (MSC.1/Circ 1392). In this regard, the co-sponsors stated that existing on-load release hooks should only be reapproved under MSC.1/Circ.1392 when the function of the hook itself is safe without the use of additional operating mechanisms or devices, and that this requirement was not met for some hooks listed in the GISIS database as being re-approved. Subsequently, they encouraged Member Governments to:

- .1 ensure that modifications of hooks carried out to obtain reapproval do not use "additional operating mechanisms"; and
- .2 provide unambiguous information regarding the names of release hooks and any remedial actions required when including the results of evaluations of on-load release hooks conducted in compliance with MSC.1/Circ.1392 into the GISIS database.

ILAMA comments on making the provisions of MSC.1/Circ.1206/Rev.1 mandatory

8.8 In considering document SSE 1/8/3, the Sub-Committee, having noted the concern expressed by the observer from IFSMA that the master may be placed in a difficult situation, when managers seek to ignore the guidance by instructing abandon ship drills with fully loaded lifeboats; and the view that care should be taken to ensure that the outcome of any proposed amendment to the testing requirements at least maintains the existing level of functional assurance for LSA, decided to bring the above views to the attention of MSC 93.

Establishment of a working group

8.9 Recalling the relevant decision at MSC 92, the Sub-Committee established the LSA Working Group and instructed it (see also paragraphs 11.[...], 17.[...] and 20.[...]), taking into account the comments and decisions made in plenary, to:

- .1 update the work plans for LSA requirements and for SOLAS chapter II-1 proposed in annexes 1 and 2 to document DE 57/WP.5/Add.1, taking into account documents DE 57/WP.5, SSE 1/8, SSE 1/8/1, SSE 1/8/2, SSE 1/8/4, SSE 1/INF.2 and SSE 1/INF.5; and
- .2 prepare draft terms of reference for a LSA Correspondence Group, if necessary, related to development of a new framework of requirements for safety objectives and functional requirements for the approval of alternative design and arrangements for SOLAS chapters II-1 (parts C, D and E) and III for consideration by the Sub-Committee.

Report of the LSA Working Group

8.10 Having considered the report of the LSA Working Group (SSE 1/WP.4), the Sub-Committee approved it in general and took action as described in the following paragraphs.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

9 DEVELOPMENT OF AMENDMENTS TO THE LSA CODE FOR THERMAL PERFORMANCE OF IMMERSION SUITS

General

9.1 The Sub-Committee recalled that DE 56 had instructed the LSA Correspondence Group to consider the methodology for ensuring consistent outcomes of thermal testing using manikins instead of human test subjects and, if necessary, the appropriate application and specification of immersion suit RTDs; and prepare relevant draft amendments to the LSA Code and the *Revised recommendation on testing of life-saving appliances* (MSC.81(70)) for consideration by DE 57.

9.2 The Sub-Committee also recalled that DE 57 had for its consideration documents DE 57/9 (Japan), DE 57/9/1 (Denmark), DE 57/9/2 (Denmark) and DE 57/9/3 (Canada) but, owing to lack of time, could not consider them.

9.3 The Sub-Committee, having noted that the sponsors of documents submitted to DE 57 have now submitted document SSE 1/9, proposing to remove this output from the

active agenda of the Sub-Committee pending completion of ongoing practical work by Member Governments, decided to consider document SSE 1/9 in lieu of the LSA Correspondence Group report (DE 57/9), in order to save time.

9.4 In considering document SSE 1/9, the Sub-Committee, having noted the following views expressed by the co-sponsors on this matter:

- .1 work is still necessary to determine suitable thermal resistance criteria, and to finalize and validate the test methodology in order to form a basis for development of draft amendments to the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)); and
- .2 this planned output should be retained in the post-biennial agenda of the Committee to facilitate resumption of consideration of this issue when the ongoing practical work is complete,

agreed to move this output to the Committee's post-biennial agenda to await the outcome of the aforementioned work.

Postponement of the work on this output

9.5 Consequently, the Committee was invited to place this output on its post-biennial agenda.

10 DEVELOPMENT OF AMENDMENTS TO THE LSA CODE FOR FREE-FALL LIFEBOATS WITH FLOAT-FREE CAPABILITY

General

10.1 The Sub-Committee recalled that DE 57 had for its consideration document DE 57/10 (ILAMA), recalling relevant draft amendments to SOLAS regulation III/31, developed by a working group at DE 47 (DE 47/WP.9); informing the Sub-Committee of the problems inherent in requiring float-free capabilities for free-fall lifeboats; and, consequently, advising the Sub-Committee not to develop relevant requirements. However, owing to lack of time, the Sub-Committee decided to defer consideration of this agenda item.

10.2 In considering document DE 57/10, the Sub-Committee noted the information provided by ICS that the proposal for "free-fall lifeboats with float-free capability" originated as a RCO from the FSA study on bulk carrier safety over ten years ago. The RCO was

accepted by the Committee and a new SOLAS regulation mandating the use of free-fall lifeboats was agreed, but not adopted, and remains awaiting verification of the availability of such equipment (MSC 78/26, paragraph 5.28).

10.3 Following discussion, the Sub-Committee decided not to proceed with development of the relevant requirements.

Completion of the work on the output

10.4 In view of the above, the Sub-Committee invited MSC 93 to withdraw the previous agreement at MSC 78 (see paragraph 10.2 above) and note that the work on this output had been completed.

11 DEVELOPMENT OF AMENDMENTS TO THE 2009 MODU CODE CONCERNING LIFEBOAT DRILLS

General

11.1 The Sub-Committee noted that MSC 89 considered document MSC 89/22/6 (Brazil), proposing to develop amendments to the 2009 MODU Code to allow alternative drills for lifeboats on mobile offshore drilling units to those required by paragraph 14.12.5 of the Code, which is referring to the requirements set out in SOLAS regulation III/19.3.3.3, and agreed to include, in the post-biennial agenda of the Committee, an output on "Development of amendments to the 2009 MODU Code concerning lifeboat drills", with two sessions needed to complete the output.

11.2 The Sub-Committee had for its consideration the following documents:

- .1 SSE 1/11 (Brazil), proposing an alternative procedure for lifeboat tests exclusively for Mobile Offshore Units (MOUs) in the operational area to achieve the basic objectives of the 2009 MODU Code, which requires lifeboat launching drills at least once every three months; and
- .2 SSE 1/11/1 (Marshall Islands), proposing an amendment to paragraph 14.12.4.2 of the 2009 MODU Code to provide MOUs with alternative means, through guidelines to be developed by the Organization, for meeting the requirement that lifeboats (except free-fall lifeboats) are to be "launched and manoeuvred with the assigned operating crew on board" at least once every three months when conditions permit.

11.3 In considering the above documents, the Sub-Committee noted the following views expressed on this matter:

- .1 there is the possibility to extend the application of alternative methods to other types of vessels, however, such an extension is outside of the current planned output;
- .2 the familiarity of crew with onboard equipment should be ensured;
- .3 the need of amendments to previous editions of the MODU Code should be considered;
- .4 the safety level should be equal to the current requirements; and
- .5 the distinction between "good weather" and "bad weather" should be defined.

Instructions to the LSA Working Group

11.4 Having considered the above views, the Sub-Committee instructed the LSA Working Group established under agenda item 8 (Development of a new framework of requirements for safety objectives and functional requirements for the approval of alternative design and arrangements for SOLAS chapters II-1 (parts C, D and E) and III), taking into account the comments and decisions made in plenary, to review the alternative procedures in document SSE 1/11 and the amendments in document SSE 1/11/1, taking into account that reference to SOLAS regulation III/19.3.3.3 needs to be replaced with reference to SOLAS regulation III/19.3.4.3 after entering into force of the amendments, adopted by resolution MSC.350(92) (i.e. 1 July 2014) and prepare amendments to the 2009 MODU Code (including consequential amendments to old MODU Code) concerning lifeboat drills.

Report of the LSA Working Group

11.5 Having considered the part of the report of the LSA Working Group (SSE 1/WP.4) dealing with the agenda item, the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

12 REVISION OF THE RECOMMENDATION ON CONDITIONS FOR THE APPROVAL OF SERVICING STATIONS FOR INFLATABLE LIFERAFTS (RESOLUTION A.761(18))

General

12.1 The Sub-Committee recalled that DE 56 considered document DE 56/17 (ILAMA), proposing to amend the *Recommendation on conditions for the approval of servicing stations for inflatable liferafts* (resolution A.761(18)) and the *Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months* (MSC.1/Circ.1328), with regard to date-expired items in the contents of packed inflatable liferafts and to eliminate the inconsistency between them.

12.2 The Sub-Committee also recalled that DE 56 supported the need for relevant amendments with regard to date-expired items, and invited Member Governments and international organizations to submit concrete proposals for amendments to the Recommendation and the Guidelines to DE 57.

12.3 The Sub-Committee further recalled that DE 57 had for its consideration document DE 57/15 (ILAMA), proposing to amend paragraph 5.11 of the Recommendation; however, owing to lack of time, DE 57 decided to defer consideration of this agenda item.

12.4 In considering document DE 57/15, the Sub-Committee noted the following views expressed on this matter:

- .1 the requirements for all type of survival crafts should be harmonized with the requirements for lifeboats and, therefore, there should be an extension of the target completion year;
- .2 it should be taken into account that service stations may undertake work for a number of manufacturers;

- .3 consistency of the Recommendation with current SOLAS requirements should be verified and, as such, a comprehensive review should be undertaken; and
- .4 equipment should be fit for purpose between service intervals and, as such, there may be a need to prescribe a methodology for determining expiry dates.

12.5 With regard to various proposals to expand the work of this output, the Sub-Committee invited interested Member Governments to submit an appropriate justification in accordance with the Committees' Guidelines (MSC-MEPC.1/Circ.4/Rev.2).

12.6 In considering the proposal in document DE 57/15, the Sub-Committee agreed to the draft amendment to paragraph 5.11 of the *Recommendation on conditions for the approval of servicing stations for inflatable liferafts* (resolution A.761(18)) and associated MSC resolution, as set out in annex [...], for adoption by MSC 94.

Completion of the work on the output

12.7 In view of the above, the Sub-Committee invited the Committee to note that the work on this output had been completed.

13 DEVELOPMENT OF REQUIREMENTS FOR ONBOARD LIFTING APPLIANCES AND WINCHES

Background

13.1 The Sub-Committee recalled that DE 57 agreed to establish a correspondence group on lifting appliances and winches and instructed it to submit a report to DE 58 (SSE 1).

Report of the correspondence group established at DE 57

13.2 The Sub-Committee, having considered the report of the correspondence group (SSE 1/13 and SSE 1/INF.3) and, in particular, the group's conclusions on the scope of future guidelines, which were as follows:

- .1 the application should be limited to "all onboard cargo lifting appliances" (for clarity, this does not include stores cranes, lifts and escalators, gear on fishing vessels, life-saving appliances); and

- .2 the guidelines should be applied to new and existing onboard cargo-lifting appliances,

noted the concern expressed by a number of delegations that some participants had experienced technical difficulties in corresponding with the coordinator and that the report was not circulated to the group prior to its submission in accordance with the Committees' Guidelines on the Organization and Method of Work. Consequently, the Sub-Committee agreed to note the report and decided not to proceed with the actions requested in paragraph 10 of the group's report.

13.3 The Sub-Committee also had the following documents for consideration:

- .1 SSE 1/13/1 (Germany), proposing to consider extracts from German Accident Prevention Regulations for Shipping Enterprises, relating to onboard lifting appliances, cranes and winches with a view to completing the list of existing regulations and standards for onboard lifting appliances and winches;
- .2 SSE 1/INF.4 (Germany), providing the aforementioned extracts from German Accident Prevention Regulations for Shipping Enterprises; and
- .3 SSE 1/13/2 and SSE 1/13/3 (New Zealand), containing proposed amendments to SOLAS and supporting guidelines to ensure the design, certification, testing and examination of onboard lifting appliances.

13.4 In considering the above documents, the Sub-Committee noted the following comments:

- .1 the scope and applicability of the requirements should not be limited to cargo-lifting appliances only and should be further clarified;
- .2 matters relating to operational procedures and maintenance are already regulated on a mandatory basis via the provisions of the ISM Code;
- .3 a renewal survey needs to be consistent with other surveys, therefore, the five-year interval should be used; and

- .4 standards for loose gear steel wire rope and shackles should be developed.

13.5 The observer from ISO advised the Sub-Committee that ISO/TC8 had already identified all the potentially relevant ISO standards and had presented the list to the correspondence group. ISO currently has two groups examining relevant standards and, therefore, any advice from IMO would be most appreciated. In addition, ISO/TC8 has increased its liaison with more organizations in order to strengthen the technical base within ISO/TC8. Furthermore, the IMO stakeholders are encouraged to contact ISO, either directly to the ISO observers or through their national standards bodies in order to contribute to the debate on ISO standards if they so require.

Establishment of a working group

13.6 Following lengthy discussion and recalling the relevant decision at MSC 92, the Sub-Committee established the Working Group on Development of Requirements for Onboard Lifting Appliances and Winches and instructed it, taking into account the comments and decisions made in plenary, to:

- .1 consider the scope and application of measures, identifying ranges of equipment and type of ships, taking into account all relevant incident reports and data, including those for the ships **Blest Marine** and **Creciente**, and those in document SSE 1/INF.3;
- .2 identify which elements of existing regulations and instruments (e.g. ILO Convention No.152, SOLAS, STCW, ISM Code, LSA Code, HSSC Guidelines, MODU Code, ISO Standards, etc.) could be cross-referenced in measures and any gaps to be covered, taking into account the information in documents SSE 1/13/1 and SSE 1/INF.4;
- .3 develop a detailed work plan for future course of action; and
- .4 consider whether it is necessary to establish a correspondence group and, if so, prepare terms of reference for consideration by the Sub-Committee.

Report of the working group

13.7 Having considered the report of the Working Group on Development of Requirements for Onboard Lifting Appliances and Winches (SSE 1/WP.5), the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

14 CONSIDERATIONS RELATED TO THE DOUBLE SHEATHED LOW-PRESSURE FUEL PIPES FOR FUEL INJECTION SYSTEM IN ENGINES ON CRUDE OIL TANKERS

14.1 The Sub-Committee recalled that MSC 91 instructed the FP Sub-Committee to consider RCO 9 (double sheathed low pressure fuel pipes for fuel injection systems in engines) of the FSA studies on crude oil tankers, for application to new ships only, and that MSC 92 agreed to place this output on the agenda of SSE 1.

14.2 Having briefly considered documents MEPC 58/17/2 and MEPC 58/INF.2 (Denmark), providing information on the FSA study on crude oil tankers carried out within the research project SAFEDOR, the Sub-Committee noted the following views:

- .1 RCO 9 needs further consideration at SSE 2, including detailed review of the background for the recommendation and the cost efficiency analysis;
- .2 this output should be expanded since the hazard the risk control option attempts to reduce is also applicable to engine rooms on other types of ships;
- .3 there may be other lower cost options for reducing the fire risk identified in the FSA study and, as such, other options should be considered; and
- .4 the first step should be to consider the RCO for new crude oil tankers only, as instructed by MSC 91, and advise the Committee accordingly on how best to proceed, including the development of a justification for a new unplanned output, if necessary, using the FSA as the basis for the compelling need.

14.3 Taking into account the above views, the Sub-Committee decided to invite Member Governments and international organizations to submit comments and proposals to SSE 2.

15 DEVELOPMENT OF AMENDMENTS TO THE PROVISIONS OF SOLAS CHAPTER II-2 RELATING TO SECONDARY MEANS OF VENTING CARGO TANKS

General

15.1 The Sub-Committee recalled that BLG 16 had for its consideration IACS Unified Interpretation SC 140, which had the aim of clarifying the 1996 amendments to SOLAS chapter II-2 relating to the secondary means of venting cargo tanks, and agreed on a justification for a new output to develop appropriate amendments to SOLAS regulations II-2/4 and II-2/11, based on a proposal by IACS, OCIMF, IPTA and INTERTANKO.

15.2 The Sub-Committee also recalled that MSC 90 agreed on the proposed new output for the post-biennial agenda of the Committee and, subsequently, MSC 92 placed it on the agenda for SSE 1.

15.3 The Sub-Committee had for its consideration the following documents:

- .1 SSE 1/15 (Liberia et al.), proposing amendments to SOLAS chapter II-2 to clarify the provisions relating to the secondary means of venting cargo tanks, noting that the proper and effective design, installation and operation of a secondary means of venting cargo tanks is critical to the safety of the vessel and those on board. In general terms, the proposal will require new tankers to install full flow P/V-valves on each cargo tank in order to ensure adequate safety against over- and under-pressure in the event a cargo tank isolation valve is damaged or inadvertently closed; and
- .2 SSE 1/15/1 (Japan), providing comments on the proposed draft amendments to SOLAS chapter II-2, as set out in annex 7 to document BLG 16/16, and suggesting amendments to paragraphs 5.3.2.2 of regulation 4 and paragraphs 6.2 and 6.3.2 of regulation 11.

15.4 In considering the above documents, the Sub-Committee, having supported the proposed amendments in document SSE 1/15, as modified by document SSE 1/15/1, agreed to the draft amendment to SOLAS regulations II-2/4.5 and II-2/11.6, as set out in annex [...], for submission to MSC 94 for approval, with a view to subsequent adoption.

16 DEVELOPMENT OF AMENDMENTS TO THE REQUIREMENTS FOR FOAM-TYPE FIRE-EXTINGUISHERS IN SOLAS REGULATION II-2/10.5

General

16.1 The Sub-Committee recalled that FP 56 considered documents FP 56/16 and FP 56/INF.6, proposing to amend SOLAS regulation II-2/10.5.1 regarding the arrangement of 135/foam-type extinguishers in the boiler-rooms and the related information regarding extinguishing tests of foam-type extinguishers, and decided that additional justification is needed before making the 135/wheeled foam-type extinguishers obsolete.

16.2 The Sub-Committee also recalled that Member Governments and international organizations were invited to submit comments and proposals on this matter.

16.3 The Sub-Committee considered document SSE 1/16 (China), proposing to amend the existing SOLAS regulation II-2/10.5.1.2.2 regarding the arrangement of 135/foam-type extinguishers in the boiler-rooms, and, having noted the differing views expressed by delegations during the discussion, decided that further consideration of this issue is necessary. Subsequently, the Sub-Committee invited Member Governments and international organizations to submit comments and proposals to SSE 2.

Extension of the target completion year

16.4 The Sub-Committee requested the Committee to extend the target completion year for this output to 2015.

17 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

General

17.1 The Sub-Committee recalled that this was a continuous item on its biennial agenda, established by MSC 78, so that IACS could submit any newly developed or updated unified interpretations for consideration of the Sub-Committee with a view to developing appropriate IMO interpretations, if deemed necessary. In this context, the Sub-Committee was advised that the Assembly, at its twenty-eighth session, expanded the output to now include all proposed unified interpretations to provisions of IMO safety, security, and environment-related Conventions (refer to the annex of resolution A.1061(28)).

Sample Extraction Smoke Detection System (paragraph 2.4.1.2 of chapter 10 of the FSS Code)

17.2 In considering document SSE 1/17/2 (IACS), regarding IACS UI SC 260 on the arrangement of control panels for sample extraction smoke detection systems, in particular the acceptability of having a control panel located in a CO₂ room and an indicating unit (repeater panel) on the navigation bridge, the Sub-Committee agreed to instruct the Working Group on Fire Protection to consider the matter and advise the Sub-Committee accordingly.

Testing and approval of pipe penetrations and cable transits, which do not utilize conventional components, for use in "A" class divisions

17.3 The Sub-Committee considered document SSE 1/17/4 (IACS), providing at the annex a copy of IACS UI FTP 6 on the testing and approval of pipe penetrations and cable transits, which do not utilize conventional components, for use in "A" class divisions (part 3 of annex 1 to the 2010 FTP Code), and decided to instruct the Working Group on Fire Protection to consider the matter and advise the Sub-Committee accordingly.

Ventilation ducts

17.4 In considering document SSE 1/17/5 (IACS), discussing two issues relevant to SOLAS regulation II-2/9.7 (the first issue relates to use of flexible bellows (IACS UI SC 99) and the second issue to the term "heat resisting"), the Sub-Committee, noting that consensus could not be achieved on the proposal to delete "heat resisting", agreed to instruct the Working Group on Fire Protection to consider the matter and advise the Sub-Committee accordingly.

Instructions to the Working Group on Fire Protection

17.5 The Sub-Committee instructed the Working Group on Fire Protection established under agenda item 3 (Development of requirements for ships carrying hydrogen and compressed natural gas vehicles), taking into account the comments and decisions made in plenary, to consider the documents SSE 1/17/2, SSE 1/17/4 and SSE 1/17/5 and advise the Sub-Committee accordingly.

Report of the Working Group on Fire Protection

17.6 Having considered the part of the report of the Working Group on Fire Protection (SSE 1/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

Load testing of hooks intended for the primary release of lifeboats

17.7 In considering document SSE 1/17/7 (IACS), reviewing the discussion at DE 57 of document DE 57/3/5 (IACS) and providing comments to the concerns raised by some delegations to IACS UI SC244 relating to paragraph 5.3.4 of part 2 of the *Revised Recommendation on Testing of Life-Saving Appliances* (resolution MSC.81(70)) on load testing of hooks intended for the primary release of lifeboats and rescue boats, the Sub-Committee agreed to the proposed revision of IACS UI SC 244.

17.8 Having considered the draft MSC circular prepared by the Secretariat (SSE 1/WP.6), the Sub-Committee agreed to the draft Unified Interpretation and the associated draft MSC circular, as set out in annex [...], for submission to MSC 94 for approval.

Periodic servicing of launching appliances and on-load release gear

17.9 In considering document SSE 1/17/15 (IACS), advising the Sub-Committee of the work IACS has undertaken to review IACS Unified Interpretation (UI) SC144 in order to further clarify the periodic servicing of launching appliances and on-load release gear as required by SOLAS regulation III/20.11, the Sub-Committee noted the following views expressed on this matter:

- .1 it is expected that MSC 93 will adopt the mandatory requirements for periodic servicing and maintenance;
- .2 the proposed unified interpretation does not indicate any limitations regarding service providers; and
- .3 this issue depends on entry into force of the amendments to SOLAS chapter III related to periodic servicing and maintenance, so, it is premature to consider this IACS UI before MSC 93.

17.10 Taking into account the above views, the Sub-Committee decided not to take any action at this stage and invited IACS to note the above comments.

Proposed amendments to MARPOL regulation I/12

17.11 The Sub-Committee recalled that DE 57, following consideration of documents MEPC 63/7/5 and DE 57/3/12 (Denmark, Spain and BIMCO) and MEPC 63/7/9 (IACS), agreed to a draft MEPC circular on Amendments to the Unified Interpretation to regulation 12.2 of MARPOL Annex I (MEPC.1/Circ.753), which was subsequently approved by MEPC 65 as MEPC.1/Circ.753/Rev.1.

17.12 The Sub-Committee also recalled that MEPC 65, when approving the revised interpretation to regulation 12.2 of MARPOL Annex I (MEPC.1/Circ.753/Rev.1), instructed the DE Sub-Committee to expedite its work on the matter.

17.13 The Sub-Committee further recalled that DE 57, with regard to the proposed amendments to MARPOL regulation I/12, as set out in annex 2 to document MEPC 63/7/9, agreed to consider them further, together with additional modifications to the draft amendments proposed at DE 57, and requested the Secretariat to prepare a document setting out the amendments, as modified, for consideration at this session.

17.14 The Sub-Committee had for its consideration the following documents:

- .1 SSE 1/17 (Secretariat), providing the draft amendments to MARPOL regulations I/1 and I/12, based on annex 2 to document MEPC 63/7/9, including the modifications agreed at DE 57;
- .2 SSE 1/17/16 and SSE 1/17/16/Corr.1 (IACS), proposing a completely new version of MARPOL regulation I/12, consequential amendments to MARPOL regulation 1/1.28 and MARPOL Annex I Unified Interpretation 6; and
- .3 SSE 1/17/17 (Japan), inviting the Sub-Committee to consider the necessity of unplanned output for the amendment to MARPOL Annex I and proposing the draft amendment to regulations 1 and 12 of MARPOL Annex I.

17.15 In considering the above documents, the Sub-Committee noted the views expressed on this matter and decided to establish a drafting group to finalize the draft text of the proposed MARPOL amendments for consideration by the Sub-Committee.

Establishment of the drafting group

17.16 The Sub-Committee established the Drafting Group on Proposed Amendments to MARPOL regulation I/12 and instructed it, taking into account the comments and decisions made in plenary, to:

- .1 finalize the draft amendments to MARPOL Annex I, using documents SSE 1/17/16 and Corr.1 as a basis, for submission to MEPC 67 for approval, with a view to subsequent adoption; and
- .2 prepare the consequential amendments to relevant unified interpretations.

Report of the drafting group

17.17 Having considered the report of the Drafting Group on Proposed Amendments to MARPOL regulation I/12 (SSE 1/WP.7), the Sub-Committee took action as outlined hereunder.

[to be prepared by the Secretariat in consultation with the Chairman after the session, based on the group's report and the actions requested therein, taking into account the decisions taken by the Sub-Committee during subsequent discussions]

Embarkation station and stowage location of the liferaft

17.18 The Sub-Committee recalled that DE 57, owing to time constraints, decided to postpone consideration of document DE 57/3/7 (IACS), providing a draft Unified Interpretation on embarkation station and stowage location of the liferaft as required by SOLAS regulation III/31.1.4, to SSE 1.

17.19 In considering document SSE 1/17/8, providing the latest version of IACS Unified Interpretation SC 213 on the embarkation station and stowage location of the liferaft as required by SOLAS regulation III/31.1.4, the Sub-Committee noted the following views expressed on this matter:

- .1 paragraph 6 of the proposed UI and reference to SOLAS regulation III/11.7 should be deleted; and

- .2 liferaft stowage position should also be provided with adequate means of illumination.

17.20 Having agreed to modify the proposed UI SC 213 (SSE 1/WP.6), the Sub-Committee agreed to the draft Unified Interpretation and the associated draft MSC circular, as set out in annex [...], for submission to MSC 94 for approval.

General emergency alarm and public address system

17.21 The Sub-Committee recalled that DE 57, due to time constraints, decided to postpone consideration of document DE 57/3/8 (IACS), providing a draft revised UI SC 145 concerning the application of the general emergency alarm and public address system, and seeking clarification on whether a general emergency alarm is required in ro-ro spaces on cargo ships, to SSE 2.

17.22 In considering document DE 57/3/8, the Sub-Committee, having noted the following views expressed on this matter:

- .1 for cargo ships it is not necessary to provide ro-ro cargo spaces with a public address system, i.e. only general emergency alarm is required in ro-ro spaces on cargo ships; and
- .2 the UI should be applied to new ships only,

invited IACS to finalize the UI SC 145, taking into account the above comments, for consideration at SSE 2.

Fixed fire detection and fire alarm systems

17.23 In considering document SSE 1/17/3 (IACS), providing in the annex a copy of the latest version of IACS UI SC 35 relating to the provisions in chapter 9 of the FSS Code on Fixed Fire Detection and Fire Alarm Systems, the Sub-Committee agreed to the draft Unified Interpretation and the associated draft MSC circular, as set out in annex [...], for submission to MSC 94 for approval.

Fixed foam fire-extinguishing systems – foam-generating capacity

17.24 In considering document SSE 1/17/10 (IACS), providing IACS UI SC 262 relating to the foam-generating capacity of fixed foam fire-extinguishing systems as required by

paragraphs 3.2.1.2 and 3.3.1.2 of chapter 6 of the FSS Code, as amended by resolution MSC.327(90), the Sub-Committee noted the following views expressed on this matter:

- .1 Sweden indicated that they cannot support the IACS proposal because it is not an interpretation. In particular, regarding paragraph 5 of the proposed UI, where IACS refers to the fire risk objects defined in regulation II-2/3.34, Sweden believes that not only these, but other fire risks should be considered, such as exhaust gas boilers and oil tanks or other expansion oil tanks placed high up in the engine casing; and
- .2 the use of term "casing" is ambiguous and, therefore, a clear definition may be necessary.

17.25 Following discussion, the Sub-Committee invited IACS, taking into account the above comments, to revise UI SC 262 for submission to SSE 2.

Gaskets used in fixed gas fire-extinguishing systems

17.26 In considering document SSE 1/17/6 (IACS), providing in the annex a copy of IACS UI SC 263 relating to gaskets used in fixed gas fire-extinguishing systems (SOLAS regulation II-2/10.4 and the FSS Code, chapter 5), the Sub-Committee, having noted, in particular, the following views:

- .1 the proposed interpretation is beyond SOLAS regulation II-2/10.4;
- .2 the need to consider the situation when gaskets start melting in pipes of fixed gas systems using CO₂; and
- .3 there are no problems to comply with the current requirements.

17.27 Following discussion, the Sub-Committee did not agree with the proposed UI and invited IACS to note the above comments and take action as appropriate.

Release operation of the CO₂ system

17.28 In considering document SSE 1/17/9 (IACS), providing the latest version of IACS UI SC 132 relating to the release operation of the CO₂ System (FSS Code, chapter 5), the Sub-Committee agreed to the draft Unified Interpretation and the associated draft MSC circular, as set out in annex [...], for submission to MSC 94 for approval.

FSS Code – Sizing of pumps and pressure tank for automatic sprinkler systems

17.29 In considering document SSE 1/17/1/Rev.1 (IACS), prescribing two possible approaches for sizing the pump and tank and seeking clarification regarding the intent of the FSS Code requirements pertaining to the sizing of the pumps and pressure tank for automatic sprinkler systems, the Sub-Committee agreed to the approach proposed in paragraphs 5 and 6 and invited IACS to advise SSE 2 as to whether any further action should be taken with respect to development of a new unified interpretation.

Fixed gas fire-extinguishing systems and fixed fire detection and fire alarm systems

17.30 In considering document SSE 1/17/11 (IACS), discussing issues relevant to the provisions of paragraph 2.2.1.7 of chapter 5 and paragraph 2.2.4 of chapter 9 of the FSS Code (the first issue is related to the number of setting points to the discharge control for the fire-extinguishing medium and the second to the time period of the power supply to the fire detection and fire alarm system), the Sub-Committee noted the following additional views expressed by the observer from IACS:

- .1 that two different understandings exist with respect to the last sentence of paragraph 2.2.1.7 of chapter 5 of the FSS Code;
- .2 two different understandings are also provided regarding the provisions paragraphs 2.1.1.1 and 2.2.1.1 of chapter 5 of the FSS Code; and
- .3 that the wording used in the paragraph 2.2.4 of chapter 9 of the FSS Code, and specifically the words "at the end of that period", can be interpreted in two different ways, which does not facilitate consistent implementation.

17.31 Following discussion, the Sub-Committee, having noted the view expressed by some delegations that 30 minutes were specifically added by the FP Sub-Committee to the period specified in SOLAS, invited IACS to prepare a draft MSC circular, which should include understanding 1 from paragraph 5 of document SSE 1/17/11 and both options proposed in paragraph 6, for further consideration at SSE 2.

Installation of manually operated call points in way of Bosun stores

17.32 In considering document SSE 1/17/12 (IACS), discussing the conditions of spaces where manually operated call points shall be required to be installed with respect to SOLAS regulation II-2/7.7 and providing a common understanding of IACS with a view to developing a unified interpretation on the matter, the Sub-Committee noted, in particular, the following:

- .1 that IACS, in view of enhancing the level of fire safety, believes that Bosun stores located remotely from accommodation blocks and used for the storage of flammable liquid as mentioned above should be arranged with appropriate fire protection and, therefore, recommends that manually operated call points should be required at exits of such Bosun stores;
- .2 some delegations expressed the view that no specific interpretation is needed, however, the clarification that a Bosun store is a service space may be useful; and
- .3 other delegations raised the concern that use of the term "Bosun store" may make the requirement not applicable and proposed to replace "Bosun store" with "Bosun/forepeak store".

17.33 Following discussion, the Sub-Committee invited Member Governments and international organizations to submit their comments and proposals to SSE 2.

Implementation of the FSS Code, chapter 14 – Fixed Deck Foam Systems

17.34 In considering document SSE 1/17/13 (IACS), commenting on the amendments to paragraph 2.3.2.3 of the FSS Code, chapter 14, as adopted by resolution MSC.339(91), and proposing revision of MSC/Circ.1120, in order to facilitate consistent implementation of its provisions upon entry into force of resolution MSC.339(91) from 1 July 2014, the Sub-Committee noted the following views expressed on this matter:

- .1 an understanding that the above amendment was intended to incorporate the interpretation from MSC/Circ.1120 and that it was not intended to preclude the positioning of the aftermost foam monitors on the deck in the area above oil bunker tanks, as was previously permitted by MSC/Circ.1120; and
- .2 in addition to the need to revise MSC/Circ.1120, a review of the definition for "cargo area" in SOLAS regulation II-2/3 should also be undertaken.

17.35 Following consideration of the draft MSC circular prepared by the Secretariat (SSE 1/WP.6), the Sub-Committee agreed to the draft MSC circular on amendments to MSC/Circ.1120, as set out in annex [...], for submission to MSC 94 for approval.

Location of the fire main isolation valves in tankers

17.36 In considering document SSE 1/17/14 (IACS), requesting further consideration of the interpretation of the phrase "the isolation valves shall be fitted in the fire main at the poop-front in a protected position" in SOLAS regulation II-2/10.2.1.4.4, as set out in paragraph 4 of annex 1 to MSC.1/Circ.1456, the Sub-Committee agreed to the draft MSC circular on amendments to MSC.1/Circ.1456, as set out in annex [...], for submission to MSC 94 for approval.

[18 BIENNIAL AGENDA AND PROVISIONAL AGENDA FOR SSE 2

Outcome of A 28

18.1 The Sub-Committee noted that the Assembly, at its twenty-eighth session, approved the *Strategic Plan for the Organization (for the six-year period 2014 to 2019)* (resolution A.1060(28)) and the *High-level Action Plan and priorities for the 2014-2015 biennium* (resolution A.1061(28)).

Biennial status report and proposed provisional agenda for SSE 2

18.2 Taking into account the progress made at the session, the Sub-Committee prepared the biennial status report of the Sub-Committee for the 2014-2015 biennium (SSE 1/WP.2, annex 1) and the proposed provisional agenda for SSE 2 (SSE 1/WP.2, annex 2), as set out in annexes [...] and [...], respectively, for consideration by MSC 93.

Correspondence groups established at the session

18.3 The Sub-Committee established correspondence groups on the following subjects, due to report to SSE 2:

[to be completed by the Secretariat after the session]

Arrangements for the next session

18.4 The Sub-Committee agreed to establish at its next session working groups on the following subjects:

[to be completed by the Secretariat after the session]

whereby the Chairman, taking into account the submissions received, would advise the Sub-Committee well in time before SSE 2 on the final selection of such groups.

Date of next session

18.5 The Sub-Committee noted that the second session of the Sub-Committee has been tentatively scheduled to take place from 23 to 27 March 2015].

[19 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2015

19.1 In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Dr. S. Ota (Japan) as Chairman and Mr. K. Hunter (United Kingdom) as Vice-Chairman, both for 2015.]

20 ANY OTHER BUSINESS

Comments on the Guidelines for evaluation and replacement of lifeboat release and retrieval systems (MSC.1/Circ.1392) referred to in SOLAS regulation III/1.5

20.1 In considering document SSE 1/20/4 (ILAMA), providing comments on the *Guidelines for evaluation and replacement of lifeboat release and retrieval systems* (MSC.1/Circ.1392) and inviting the Sub-Committee to reconsider the requirements for a post-installation towing test after replacement of a lifeboat release and retrieval system as required in paragraph 24.3 of the circular, the Sub-Committee noted the views expressed by the following delegations:

- .1 ICS, supported by observers from ITF and NI, expressed the view that, as the designed function of the lifeboat and davit system is to accommodate a launch and release in conditions similar to those simulated by the 5 knot launch test, the proposal to discard this test should be very carefully considered. They were also of the view that the proposed amendment to paragraph 24.3 of MSC.1/Circ.1392 implies dynamic movement; however, a dynamic movement has not been discussed in document SSE 1/20/4, so further clarification of the proposed amendment is necessary;
- .2 Germany, supported by delegations of the Netherlands and Norway, agreed with the comments in document SSE 1/20/4 and the proposal to amend test procedure in MSC.1/Circ.1392, and, bearing in mind that MSC.1/Circ.1392 applies only within this very limited timeframe, proposed that any decisions to be taken should be dully recorded; and

- .3 the United States, supported by the delegation of Spain, while agreeing to some of the elements in the above document, were of the view that the boat should be released during testing, proposing that further careful consideration is needed, due to some contradictions in the ILAMA proposal.

20.2 Following discussion, the Sub-Committee did not support the ILAMA proposal and decided not to proceed with this issue further.

Development of a Mandatory Code for Ships Operating in Polar Waters – Chapters 8 and 9

20.3 The Sub-Committee recalled that SDC 1 finalized chapters 8 (Fire safety/protection) and 9 (Life-saving appliances and arrangements) of the draft Mandatory Code for Ships Operating in Polar Waters and requested the Sub-Committee to consider the need for the development of additional performance or test standards and advise MSC 93 accordingly.

20.4 In considering document SSE 1/INF.8 (Secretariat), providing the finalized texts of chapters 8 (Fire safety/protection) and 9 (Life-saving appliances and arrangements) of the draft Mandatory Code for Ships Operating in Polar Waters, the Sub-Committee noted the following views expressed on this matter:

- .1 there are several places in the proposed text, where further work (i.e. interpretation/clarification) is needed, in particular, the Committee should be invited to replace the term "as practicable" with "as far as practical", as the latter term provides the flexibility intended;
- .2 the applicability of existing test procedures and performance standards should be further considered;
- .3 the FSS and LSA Codes should be reviewed for the purpose of the Polar Code; and
- .4 any detailed proposals outside the scope of the specific request of SDC 1 should be submitted directly to MSC 93 for consideration.

20.5 Following discussion, the Sub-Committee, having generally agreed that additional performance or test standards may be necessary, decided that a detailed discussion should not be started until after MSC 93 has finalized the Polar Code. Subsequently, the Sub-Committee

requested the Secretariat to inform MSC 93 of the above decision, including the matter raised in paragraph 20.4.1.

Draft International Code of safety for ships using gas or other low-flashpoint fuels (IGF Code)

20.6 The Sub-Committee recalled that BLG 16, having noted that there are no additional requirements in the draft text of the IGF Code for life-saving appliances over and above those in existing conventions, invited DE 57 to consider the need for additional or alternative requirements for LSA on ships covered by the Code, with a view to advising the BLG Sub-Committee accordingly (paragraph 3 of document DE 57/2/2 (Secretariat)).

20.7 The Sub-Committee also recalled that DE 57, due to lack of time, decided to defer consideration of document DE 57/2/2 to DE 58 (now SSE 1).

20.8 In considering the need for additional or alternative requirements for LSA on ships covered by the IGF Code, the Sub-Committee, taking into account that no comments or proposals had been submitted to this session, agreed that no further action is necessary on this matter. Subsequently, the Sub-Committee requested the Secretariat to inform CCC 1 accordingly.

Casualty analysis

20.9 The Sub-Committee had for its consideration the following documents:

- .1 DE 57/2/3 (Secretariat), informing that MSC 91 instructed the Sub-Committee to consider the reports on the incidents of the **BBC Atlantic** (GISIS incident C0007492), **Star Java** (GISIS incident C0007519), **Knud Lauritzen** (GISIS incident C0007251), **Sand Falcon** (GISIS incident C0007978) and **Wellservicer** (GISIS incident C0007608), as well as the analysis and comments made by the FSI Correspondence Group on Casualty Analysis (FSI 20/5) and advise the Committee accordingly; and
- .2 SSE 1/20 (Secretariat), providing information on the request from FSI 21 and MSC 92 for the Sub-Committee to consider the investigation reports on the incidents of the **Commodore Clipper**, **Lisco Gloria**, **Pearl of Scandinavia** and **Deepwater Horizon**, together with the analyses and

comments made by FSI's correspondence group on casualty analysis (FSI 21/5).

20.10 The Sub-Committee, recalling the decision of MSC 92 (MSC 92/26, paragraph 22.29) regarding the approach to be taken in Sub-Committee deliberations on casualty analysis, decided to take no action at this time on the matters forwarded to DE 57 and SSE 1 in the absence of a clear link to existing outputs.

20.11 The Sub-Committee was advised by the delegation of the United States that a document, co-sponsored by the Marshall Islands, United States and IDAC, has been submitted to MSC 93, proposing a new unplanned output on revision of the fire safety provisions of the 2009 MODU Code, which is based on the recommendations emanating from the investigation of **Deepwater Horizon** casualty.

Application of paragraphs 8.10.1.4, 8.10.1.5 and 8.10.1.6 of the 2000 HSC Code

20.12 In considering document DE 57/23/1 (IACS), seeking clarification regarding the implementation of paragraphs 8.10.1.4, 8.10.1.5 and 8.10.1.6 of the 2000 HSC Code concerning the exemption from the carriage requirement for a rescue boat for high-speed craft of less than 30 m in length, the Sub-Committee noted the view expressed by the Netherlands that an alternative solution should be available.

20.13 Subsequently, the Sub-Committee noted that IACS intended to submit a document on the issue related to possible discrepancies in the HSC Code to MSC 94.

Safe working load and lowering test load for launching appliances

20.14 In considering document MSC 90/9/2 (IACS), offering to develop a relevant unified interpretation on the application of the increased average person mass for occupants of liferafts to 82.5 kg, to both new and existing ships, and the effect this has on the Safe Working Load of any davits employed to launch these liferafts, the Sub-Committee agreed with the view of ICS that no specific action needs to be taken as MSC.1/Circ.1361 is applicable to passenger ships only and, therefore, on cargo ships, the Safe Working Load of launching appliance should not be less than the certified weight of the liferaft.

Scope of application and drafting of amendments to the LSA Code

20.15 In considering document DE 57/23/5 (Secretariat), requesting the Sub-Committee to consider the draft amendments to the LSA Code related to the scope of application, including

the concern expressed by IACS on the application of SOLAS regulation III/1.4.2 to inflatable liferafts and draft MSC circular on Guidance for drafting amendments to the LSA Code, the Sub-Committee noted the following views expressed on this matter:

- .1 the term "recently" in the draft amendments should be clarified;
- .2 with regard to the scope of application, the term "constructed after" should be used instead of "constructed on or after";
- .3 the application dates in SOLAS chapter III, the LSA Code and the Recommendation on testing should be harmonized; and
- .4 it is premature to consider this issue until the guidance related to the application of amendments to SOLAS, which is currently being developed by the Committee (MSC 92/26, paragraphs 3.86 to 3.89), is finalized.

20.16 Having been advised that the LSA Code is outside the scope of work currently under consideration by the Committee, the Sub-Committee decided to instruct the LSA correspondence group (see paragraph 8...) to consider document DE 57/23/5, taking into account the relevant outcome of MSC 93, and advise SSE 2 accordingly. Subsequently, the Sub-Committee requested the Secretariat to advise MSC 93 of the above decision.

Amendments to the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation (MSC.1/Circ.1331)

20.17 In considering document DE 57/23/2 (Republic of Korea), proposing amendments to the *Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation* (MSC.1/Circ.1331) concerning the location of the means of embarkation and disembarkation, lifebuoys and lightest seagoing condition, the Sub-Committee, having noted that there was no planned output for this issue, invited the Republic of Korea to prepare a justification for a new unplanned output in accordance with the Committee's Guidelines on the organization and method of work.

Correction to resolution MSC.81(70), as revised by resolution MSC.323(89)

20.18 In considering document DE 57/23/4 (China), identifying an oversight in the editorial changes to resolution MSC.81(70) effected by resolution MSC.323(89), which inadvertently

extended tensile strength test for buoyancy material of lifejackets to that of lifeboats, the Sub-Committee agreed that a corrigenda should be issued to modify paragraph 6.2.2 of part 1 in resolution MSC.81(70), as follows:

"When inherent buoyant material is required, the material should be subjected to the tests prescribed in 2.6 (but with exclusion of 2.6.8), except that in 2.6.6.3 high-octane petroleum spirit should be substituted for diesel oil.",

and requested the Secretariat to take action accordingly. The Committee was invited to note the above decision.

Information on equipment for MOB situations

20.19 The Sub-Committee noted the documents DE 57/INF.11 and DE 57/INF.12 (Spain), containing information on the Ocean Safety System S2S, developed to provide safety measures for seafarers working on deck to address man overboard (MOB) situations, and the Albatros Suit, an innovative LSA for seafarers.

Proposed amendments to the MODU Code and the Recommendation on helicopter landing areas on ro-ro passenger ships (MSC/Circ.895)

20.20 The Sub-Committee recalled that FP 56 considered document FP 56/20/3 (United States), suggesting amendments to SOLAS regulation II-2/18.5, the MODU Code and the Recommendation on helicopter landing areas on ro-ro passenger ships (MSC/Circ.895), and referred the draft amendments to the MODU Code and MSC/Circ.895, as set out in annexes 2 and 3, to the DE 57 for appropriate action, noting that these draft amendments were applicable to new MODUs and new ro-ro passenger ships, as appropriate.

20.21 In considering annexes 2 and 3 of document FP 56/20/3, the Sub-Committee noted the concern expressed by ICS in regard to the requirements of paragraph 3.4 of MSC.1/Circ.1431 and their request for further clarification.

20.22 Subsequently, the Sub-Committee invited interested Member Governments and international organizations to submit their comments to SSE 2.

Testing of automatic sprinkler systems on passenger ships

20.23 The Sub-Committee noted the information provided by the Bahamas (MSC 92/INF.10) on findings from the testing of automatic sprinklers on passenger ships and expressing the view that the scope of testing in MSC.1/Circ.1432 may not adequately assess the actual condition of automatic sprinkler systems.

Inspection and Maintenance of Fixed Carbon Dioxide Fire-Extinguishing System

20.24 In considering document SSE 1/20/3 (Bahamas), informing of a failure of the control valves in the delivery manifold of the fixed carbon dioxide fire-extinguishing system during a serious fire in a main machinery space and proposing the amendment to section 6 of MSC.1/Circ.1318, the Sub-Committee, having noted the concern expressed by the delegation of the Netherlands on difficulties related to the practical realization of the proposal, decided to invite the interested Member Governments to submit a justification for the new unplanned output in accordance with the Committees' Guidelines on the organization and method of work.

Consideration of the amendments to the EmS Guide

20.25 The Sub-Committee noted the information provided in document SSE 1/20/1 (Secretariat), informing of the outcome of DSC 18 regarding the draft amendments to the EmS Guide, which are expected to be adopted at MSC 93.

Development of amendments to the IMDG Code and supplements

20.26 The Sub-Committee noted the information in paragraph 5 of document SSE 1/2/1 (Secretariat) on the outcome of DSC 18 related to draft amendments to SP 961 and SP 962 in the IMDG Code.

Clarification of a vague expression in chapter 9 of the FSS Code on Fixed Fire Detection and Fire Alarm Systems

20.27 In considering document SSE 1/20/2 (IACS), presenting the understanding of IACS in relation to paragraph 2.5.1.3 of chapter 9 of the International Code for Fire Safety Systems (FSS Code), as amended, the Sub-Committee agreed to the IACS understanding.

Possible errors in the 2010 FTP Code

20.28 In discussing document SSE 1/20/5 (Norway), addressing two possible errors in part 10 of the 2010 FTP Code, the Sub-Committee, having noted that these errors may cause

problems in connection with testing and certification of materials used for furniture and other components of high-speed craft, requested the Secretariat to issue an Erratum.

Inert gas system using nitrogen generator

20.29 The Sub-Committee noted document SSE 1/INF.7 (Republic of Korea), containing information on inert gas systems, using a nitrogen generator with a minimized number of membranes, which can be applied in tankers less than 20,000 deadweight, and the results of a sample calculation verifying the possibility of practical application of this system on ships.

Test laboratories recognized by Administrations and availability of Halons

20.30 The Sub-Committee recalled that the FP Sub-Committee issued annually two FP circulars, one on halon banking and reception facilities and the other on test laboratories recognized by Administrations. In this regard, the Sub-Committee noted the following information provided by the Secretariat on the status of the aforementioned FP circulars:

- .1 the revised annual FP circular on Test laboratories recognized by Administrations (FP.1/Circ.45) was published on 24 January 2013 and two addenda FP.1/Circ.45/Add.1 and FP.1/Circ.45/Add.2 were published on 4 March 2013 and 21 November 2013, respectively; and
- .2 the annual FP circular on Halon banking and reception facilities (FP.1/Circ.46) was published on 25 January 2013.

20.31 Referring to restructuring of the IMO Sub-Committees' which took effect on 1 January 2014, the Sub-Committee, having considered whether an annual issue of the aforementioned circulars should be continued as SSE circulars, decided to request the Secretariat to issue all future circulars as "SSE circulars" and update them only as and when necessary in lieu of issuing them annually (i.e. as revisions to the base circulars).

21 ACTION REQUESTED OF THE COMMITTEES

21.1 The Maritime Safety Committee, at its ninety-third session, is invited to:

[to be prepared by the Secretariat in consultation with the Chairman after the meeting]

21.2 The Maritime Safety Committee, at its ninety-fourth session, is invited to:

[to be prepared by the Secretariat in consultation with the Chairman after the meeting]

21.3 The Marine Environment Protection Committee, at its sixty-seventh session, is invited to:

[to be prepared by the Secretariat in consultation with the Chairman after the meeting]

ANNEXES

[to be prepared by the Secretariat after the session]
