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SUB-COMMITTEE ON SHIP SYSTEMS AND EQUIPMENT
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Agenda item 16

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REPORT TO THE MARITIME SAFETY COMMITTEE

TABLE OF CONTENTS

LIST OF ANNEXES

1 GENERAL

1.1 The Sub-Committee on Ship Systems and Equipment (SSE) held its third session from 14 to 18 March 2016 under the chairmanship of Dr. S. Ota (Japan). The Vice-Chairman, Mr. U. Senturk (Turkey), was also present.

1.2 The session was attended by delegations from Member Governments and the Associate Member of IMO and by observers from intergovernmental organizations and non-governmental organizations in consultative status, as listed in document SSE 3/INF.1.

Opening address

1.3 The Secretary-General welcomed participants and delivered the 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 3/1) and agreed to be guided in its work, in general, by the annotations contained in document SSE 3/1/1 (Secretariat) and the arrangements in document SSE 3/1/2 (Secretariat). The agenda, as adopted, together with the list of documents considered under each agenda item, is set out in document SSE 3/INF.6.

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by MSC 95, A 29 and SDC 3, as reported in documents SSE 3/2 and SSE 3/2/1 (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 Maritime Safety Committee, at its ninety-fifth session, having considered documents MSC 94/17/1 and MSC 95/19/11 (Secretariat), containing a recommendation to transfer all outputs related to SOLAS chapter II-2 from the SDC Sub-Committee to the SSE Sub-Committee, had agreed that the existing outputs on the SDC Sub-Committee's biennial agenda and provisional agenda for SDC 3 should remain under the Sub-Committee's coordination. However, MSC 95 had also agreed that, in future, new outputs related to SOLAS chapter II-2 would, in principle, be assigned to the SSE Sub-Committee but would be considered on a case-by-case basis.

2.3 The Sub-Committee further noted that the Assembly, at its twenty-ninth session, had approved the *Strategic plan for the Organization (for the six-year period 2016 to 2021)* (resolution A.1097(29)) and the *High-level Action Plan of the Organization and priorities for the 2016-2017 biennium* (resolution A.1098(29)).

2.4 The Sub-Committee noted further the decisions made by HTW 3 with regard to the review of the MODU and LSA Codes and MSC.1/Circ.1206/Rev.1 (HTW 3/19, paragraph 15.9) and took them into account in its deliberations when dealing with agenda item 5 (see paragraph 5.3).

3 SAFETY OBJECTIVES AND FUNCTIONAL REQUIREMENTS OF THE GUIDELINES ON ALTERNATIVE DESIGN AND ARRANGEMENTS FOR SOLAS CHAPTERS II-1 AND III

General

3.1 The Sub-Committee recalled that SSE 2, having noted that, due to parallel activities by the MSC Working Group on GBS-SLA since the inclusion of this agenda item at MSC 82, some of the work initially foreseen had been overtaken by events as the Committee had developed the *Generic guidelines for developing IMO goal-based standards* (MSC.1/Circ.1394) and the *Guidelines for the approval of alternatives and equivalents as provided for in various IMO instruments* (MSC.1/Circ.1455), had agreed to the options regarding the future work plan, as set out in annex 4 to document SSE 2/20, and had invited MSC 95 to consider them with a view to deciding on the scope and direction of the outputs concerned.

3.2 The Sub-Committee also recalled that MSC 95 had agreed the work plan for the further development of the draft *Interim guidelines for development and application of IMO goal-based standards safety level approach*, as set out in paragraph 5.18 of document MSC 95/22, and had invited Member Governments and international organizations to submit specific GBS-SLA examples on SOLAS chapter III as well as comments and proposals on the draft interim guidelines for consideration at MSC 96.

3.3 The Sub-Committee further recalled that SSE 2, having noted that no specific proposals related to safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III* had been submitted for consideration at that session, had encouraged Member Governments and international organizations to submit comments and concrete proposals to SSE 3.

3.4 The Sub-Committee recalled also that MSC 95 had requested the Secretariat to forward document LSA VIII/2/5 (United States) to SSE 3, for consideration with a view to developing functional requirements of SOLAS chapter III.

3.5 The Sub-Committee recalled further that MSC 95 had agreed a new work plan for the development of functional requirements of SOLAS chapter III, as set out in paragraph 12.7 of document MSC 95/22, and had invited Member Governments and international organizations to submit proposals on the functional requirements of SOLAS chapter III for consideration at SSE 3, taking into account the outcome of the work already undertaken and reported to SSE 2.

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

.1 SSE 3/INF.2 (Secretariat), conveying a copy of the IMCO document of 1974 on the revision of SOLAS chapter III (LSA VIII/2/5), which contains functional requirements for life-saving appliances;

.2 SSE 3/3 (China), proposing the goal and functional requirements for pre-abandonment, based on MSC.1/Circ.1394/Rev.1 and proposals under part B of Annex I to document LSA VIII/2/5, for inclusion in SOLAS chapter III;

.3 SSE 3/INF.3 (China), providing information on the process of developing the safety goal and functional requirements for pre-abandonment, based on MSC.1/Circ.1394/Rev.1;

.4 SSE 3/3/1 (China), advising of the experience gained in the implementation of MSC.1/Circ.1394/Rev.1 while developing the goal and functional requirements for pre-abandonment and proposing amendments to the Generic guidelines;

.5 SSE 3/3/2 (Germany and Sweden), suggesting the work plan for finalization of the work on the new framework of requirements for life-saving appliances and providing a set of functional requirements proposed for inclusion in SOLAS chapter III; and

.6 SSE 3/3/3 (Germany, the Netherlands and Sweden), providing comments on document SSE 3/3/2 based on the study undertaken by the Netherlands and Germany to connect the functional areas, as formulated in document SSE 2/6/1 (Germany), with the functional requirements proposed in document SSE 3/3/2.

Goal and functional requirements proposed for inclusion in SOLAS chapter III and work plan for the development of functional requirements for life-saving appliances

3.7 In considering documents SSE 3/3, SSE 3/INF.3, SSE 3/3/2 and SSE 3/3/3, the Sub-Committee noted the following views expressed on this matter:

.1 it was never the intention that document LSA VIII/2/5 should be used as a base document or as a basis for the discussions, but that this document might help to gain a better understanding of the thinking behind the revision of SOLAS chapter III that took place in the seventies;

.2 the proposals to develop additional goals and functional requirements for inclusion in SOLAS chapter III and to divide functional requirements into generic and specific functional requirements, as set out in in document SSE 3/3, are based on document LSA VIII/2/5;

.3 it has not been yet decided by the Committee how the functional requirements, when developed, need to be dealt with;

.4 the thinking behind the revision of SOLAS chapter III, as presented in document LSA VIII/2/5, needs to be further updated, based on the Generic guidelines (MSC.1/Circ.1394/Rev.1);

.5 due to the problem discovered with using the link provided in paragraph 5 of document SSE 3/3/3, the complete table containing the results of the study carried out by the Netherlands and Germany may be provided for consideration by the Working Group on Life-Saving Appliances (LSA);

.6 document SSE 3/3/3 provides a number of new expressions which require further clarification;

.7 the term "evacuation from ship" used in the annex to document SSE 3/3/3 should be replaced with "abandonment"; and

.8 all the above documents should be further considered by the LSA Working Group, but document SSE 3/3/2 should be used as a base document.

3.8 Following discussion, the Sub-Committee agreed that the Working Group on Life-Saving Appliances (LSA) should be instructed to further consider the matters related to the goal and functional requirements of SOLAS chapter III and the work plan for the development of functional requirements for life-saving appliances, and advise the Sub-Committee on how best to proceed (see paragraph 3.10).

Draft amendments to the Generic guidelines (MSC.1/Circ.1394/Rev.1)

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

.1 the amendments proposed in annex 1 to document SSE 3/3/1 are not within the instructions given by MSC 95 and, therefore, should not be considered by the Sub-Committee; however, the information on experience gained by China in using the Generic guidelines should be appreciated and reported to MSC 96, as requested in paragraph 12.7.2 of document MSC 95/22;

.2 the collection of information on practical implementation of the Generic guidelines should be continued; and

.3 the information on practical experience in using the Generic guidelines should be reported to MSC 96.

and agreed to instruct the LSA Working Group to advise the Sub-Committee on any comments/information on the experience gained in the implementation of MSC.1/Circ.1394/Rev.1 (see paragraph 3.10).

Establishment of a Working Group on Life-Saving Appliances (LSA)

3.10 Following discussion and recalling the relevant decision at MSC 95, the Sub-Committee established the Working Group on Life-Saving Appliances (LSA) and instructed it, taking into account the comments and decisions made in plenary, to:

.1 further consider the proposals related to the development of the goal and functional requirements of SOLAS chapter III, as set out in documents SSE 3/3, SSE 3/INF.3, SSE 3/3/2 and SSE 3/3/3, using document SSE 3/3/2 as a base document, and advise the Sub-Committee on how best to proceed;

.2 finalize a work plan for the development of functional requirements of SOLAS chapter III, based on the proposals in paragraph 7 of document SSE 3/3/2 and the future work plan for the Sub-Committee set out in paragraph 12.7 of document MSC 95/22;

.3 advise the Sub-Committee on any comments/information on the experiences gained on the implementation of MSC.1/Circ.1394/Rev.1; and

.4 consider whether it is necessary to establish a correspondence group and, if so, prepare the terms of reference for consideration by the Sub-Committee.

Report of the LSA Working Group

3.11 Having considered the part of the report of the LSA Working Group (SSE 3/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 3.12 to 3.16.

Functional requirements for SOLAS chapter III

3.12 In considering the functional requirements for SOLAS chapter III, the Sub-Committee noted the following views expressed by the group:

.1 in addition to document LSA VIII/2/5, some of this earlier work could also be useful as a source of background information when drafting the functional requirements, in particular documents DE 56/6/1, DE 57/7, DE 57/7/2 and DE 57/WP.5;

.2 in order to draft a comprehensive set of functional requirements for SOLAS chapter III, the scope of such functional requirements might overlap with other SOLAS chapters (e.g. certain high-level elements of the LSA Code may also need to be considered to cover all aspects of the life-saving functionality); however, at this stage, the focus of the work should be on SOLAS chapter III only;

.3 the functional requirements should be as clear as possible and, in order to avoid any confusion, the definition and technical background of functional requirements should be developed;

.4 no grouping or sorting of the functional requirements needs to be done at this stage; and

.5 some of the draft functional requirements derived from document LSA VIII/2/5 are related to performance criteria or expected performances and, therefore, should be separated and not considered at this stage, i.e. such expected performances should be developed in due course.

3.13 Having agreed to the group's view that the draft functional requirements of SOLAS chapter III, as set out in annex 1, should be used as a basis for the future work, the Sub-Committee invited MSC 96 to endorse them so that they can be taken into account by the Correspondence Group on the Development of Functional Requirements for SOLAS chapter III (see paragraph 3.16), as appropriate.

Work plan

3.14 In order to finalize the work on the functional requirements of SOLAS chapter III, the Sub-Committee endorsed the following work plan agreed by the group:

.1 check the draft functional requirements with respect to completeness;

.2 develop the expected performance to each functional requirement and further revise them as necessary; and

.3 structure the functional requirements and expected performance for SOLAS chapter III.

Experiences gained in the implementation of MSC.1/Circ.1394/Rev.1

3.15 Having noted that the MSC.1/Circ.1394/Rev.1 was the basis for the development of functional requirements for SOLAS chapter III, the Sub-Committee invited MSC 96 to consider the following preliminary information on the experience gained during the implementation of MSC.1/Circ.1394/Rev.1, taking into account that more experience will be gained and collected for submission to the Committee:

.1 the hierarchical, layered structure of the regulations should be developed in compliance with goal-based standards framework;

.2 functional requirements should be identified in an orderly and exclusive manner; and

.3 a method for verifying the conformity of goal-based regulations should be developed.

Establishment of a correspondence group

3.16 Following discussion, the Sub-Committee established the Correspondence Group on the Development of Functional Requirements for SOLAS chapter III, under the coordination of Sweden[1], and instructed it, taking into account the comments and decisions made at SSE 3 and MSC 96, to:

.1 check the draft functional requirements with respect to completeness;

.2 develop the expected performance to each functional requirements and further revise them as necessary;

.3 structure functional requirements and expected performance for SOLAS chapter III; and

.4 submit a report to SSE 4.

4 MAKING THE PROVISIONS OF MSC.1/CIRC.1206/REV.1 MANDATORY

General

4.1 The Sub-Committee recalled that SSE 2, having noted that a number of delegations had expressed the view that the proposal to allow "certified personnel" to carry out annual examinations and five-year operational tests was not in line with the instructions from MSC 93, decided that draft amendments to SOLAS regulations III/3 and III/20 as well as the draft MSC resolution on *Requirements for periodic servicing and maintenance of lifeboats and rescue boats, launching appliances and release gear* could not be submitted to the Committee for adoption at this stage. In this connection, SSE 2 requested MSC 95 to provide clear instructions on who is allowed to carry out annual examinations and five-year operational tests; and to confirm whether the Sub-Committee is allowed to propose any further amendments to SOLAS chapter III while finalizing the draft MSC resolution.

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4.2 The Sub-Committee also recalled that MSC 95 had agreed that, based on the practical experience of application circulars MSC.1/Circ.1206/Rev.1 and MSC.1/Circ.1277, the annual thorough examination should be carried out by the manufacturer or a service provider authorized by the Administration, taking into account the understanding that a service provider may be an entity other than the manufacturer (e.g. a ship operator complying with the relevant criteria).

4.3 MSC 95, in discussing whether the Sub-Committee is authorized to propose further amendments to SOLAS chapter III while finalizing the draft MSC resolution on *Requirements for periodic servicing and maintenance of lifeboats and rescue boats, launching appliances and release gear*, endorsed, in principle, the suggestion that the SOLAS regulations should address the questions "What is to be done?" and "When is it to be done?" and that the draft MSC resolution should address "How is it to be done?" and "Who does it?"; and agreed that SOLAS regulations III/20 and III/36 as well as the *Guidelines for developing operation and maintenance manuals for lifeboat systems* (MSC.1/Circ.1205) should be further reviewed for the purpose of consistency, but without introducing any amendments not specifically related to this matter.

4.4 The Sub-Committee recalled also that MSC 95, bearing in mind the importance of the issue on periodic servicing and amount of work to be done, had agreed to re-establish the original output on "Making the provisions of MSC.1/Circ.1206/Rev.1 mandatory" and had instructed SSE 3 to review: the draft MSC resolution set out in annex 1 to document MSC 93/3/4, taking into account circulars MSC.1/Circ.1206/Rev.1 and MSC.1/Circ.1277 and that the annual thorough examination should be carried out by the manufacturer or a service provider authorized by the Administration, including the understanding that a service provider may be an entity other than the manufacturer (e.g. ship operator complying with the relevant criteria); SOLAS regulations III/20 and III/36; and MSC.1/Circ.1205, for the purpose of consistency with the draft MSC resolution.

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

.1 SSE 3/4 (IACS), proposing to amend SOLAS regulation III/20.11.2 and the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, with a view to addressing the recommendation, set out in the report of the Australian Transport Safety Bureau (ATSB) on unintentional release of the freefall lifeboat from **Aquarosa**, that the simulation equipment (e.g. wires) used for maintenance and testing should be approved and designed to take into account the lifeboat's static weight as well as the shock loading that would be experienced during a simulated launching;

.2 SSE 3/4/1 (Bahamas), proposing amendments to SOLAS regulations III/20.3 and III/20.11 to relocate the provisions relating to the competence and certification of personnel carrying out activities regulated under SOLAS regulation III/20.11 to the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*; and some further amendments eliminating duplication within SOLAS regulation III/20;

.3 SSE 3/4/2 (Japan), providing draft amendments to SOLAS chapter III; the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*; and draft amendments to MSC.1/Circ.1205;

.4 SSE 3/4/3 (Germany and Sweden), providing the up-to-date drafts of the MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* and the MSC circular on *Guidelines on safety during abandon ship drills using lifeboats*, based on the texts set out in annexes 1 and 2 to document MSC 93/3/4 and taking into account the comments made at SSE 2 and decisions taken at MSC 95; and

.5 SSE 3/4/4 (China), proposing further improvements to the draft amendments to SOLAS regulations III/20.11 and III/36.1 and the draft MSC resolution on *Requirements for periodic servicing and maintenance of lifeboats and rescue boats, launching appliances and release gear,* with a view to determining the qualified entities to carry out annual thorough examination and operational testing.

Draft new mandatory MSC resolution and related amendments to SOLAS chapter III, MSC.1/Circ.1205 and the draft MSC circular on Guidelines on safety during abandon ship drills using lifeboats

4.6 In considering documents SSE 3/4/1, SSE 3/4/2, SSE 3/4/3 and SSE 3/4/4, the Sub-Committee noted the following views expressed on this matter:

.1 the most rational approach is to agree on the SOLAS amendments first, and then finalize the draft new MSC resolution accordingly;

.2 with regard to the draft MSC resolution, the work for clarification should focus on "Who does it?";

.3 the draft SOLAS amendments and the draft MSC resolution on *Requirements for periodic servicing and maintenance of lifeboats and rescue boats, launching appliances and release gear* should be finalized as a single package;

.4 for annual thorough examination, those engaged in the examination, no matter whether manufacturer or authorized service provider, must meet the same criteria proposed by the draft MSC resolution, i.e. personnel for servicing and maintenance must be trained and certified and the entity to which the personnel belongs must be authorized by the Administration;

.5 annual and five-year operational testing must be conducted by those carrying out the annual thorough examination, overhaul and repair, i.e. the manufacturer or an authorized service provider, to avoid any dispute about liability where malfunction of equipment or failure of operational testing happens or even an accident causing human injury or death occurs during operational testing; and

.6 the draft MSC resolution should provide a clear understanding of who can carry out Tier I (i.e. weekly and monthly inspections and routine maintenance as specified in the equipment maintenance manual(s)), Tier II (i.e. annual thorough examination and operational tests) and Tier III (i.e. five-year thorough examination, overhaul and overload operational tests) services.

4.7 With regard to the general safety requirement, including the establishment of health, safety and environment (HSE) procedures (i.e. paragraph 1.4 of annex 1 to document SSE 3/4/3), the Sub-Committee endorsed the view that the Company was not required to establish and implement HSE procedures beyond the scope of the ISM Code.

4.8 After a lengthy discussion on the qualification levels and authorization of service providers for Tiers II and III, the Sub-Committee agreed that:

.1 a service provider, other than the original equipment manufacturer (OEM), has to be authorized by the Administration;

.2 the OEM need not be authorized; and

.3 the extent of authorization of service providers must be specified in the draft MSC resolution.

4.9 Following discussion, the Sub-Committee also decided to instruct the LSA Working Group to finalize the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, based on annex 1 to document SSE 3/4/3; and draft consequential amendments to SOLAS regulations III/3 and III/20 based on the annex to document SSE 3/4/1, the draft MSC circular on *Guidelines on safety during abandon ship drills using lifeboats* based on annex 2 to document SSE 3/4/3, and MSC.1/Circ.1205 based on annex 3 to document SSE 3/4/2.

Application of the *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500)

4.10 The Sub-Committee recalled that MSC 94 had approved the *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500) and had invited Contracting Governments to the SOLAS Convention to take into account the provisions of the Guidance when submitting proposals for amendments in accordance with article VIII (b)(i) of SOLAS Convention and/or proposals for new outputs in accordance with paragraph 4.8 of the Committees' Guidelines (MSC-MEPC.1/Circ.4/Rev.4).

4.11 The Sub-Committee also recalled that the Committee and its subsidiary bodies, including working groups and drafting groups, were requested to take into account the Guidance during the preparation of draft amendments to SOLAS Convention and related mandatory instruments, as well as during the approval and adoption stages.

4.12 The Sub-Committee further recalled that, in accordance with paragraphs 3.2.1.3.16.2, 3.2.1.3.17 and 3.1.2.3.19 of the Guidance, a final draft text of proposed amendments to SOLAS Convention or any related mandatory instrument needs to be reviewed by either a drafting group or by a working group to properly address the issues listed in part III of the check/monitoring sheet given in annex 2 to the Guidance. Moreover, it is clearly requested that part III of the check/monitoring sheet and the record format given in annex 3 to the Guidance should be completed by the drafting or working group that prepares the draft amendment(s). The Secretariat is only allowed to keep the record format updated in respect of relevant decisions taken at the sub-committee or committee level, at the approval and adoption stage.

4.13 In this connection, the Sub-Committee agreed that, due to the long history of the development and refinement of the draft amendments to SOLAS chapter III and draft mandatory MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, it was not practicable to follow the above provisions of MSC.1/Circ.1500 at this stage, as it would delay the submission of the draft SOLAS amendments and draft mandatory MSC resolution to the Committee for adoption, at least by one year. Subsequently, the Sub-Committee, bearing in mind that the draft SOLAS amendments and the draft MSC resolution had already been approved by MSC 92 and then submitted for adoption to MSC 93, decided to exclude this set of amendments from the application of MSC.1/Circ.1500 and invited MSC 96 to note the above decision when considering the draft SOLAS amendments and the draft MSC resolution.

IACS recommendation regarding maintenance, testing and approval of simulated launching restraining devices

4.14 In considering document SSE 3/4, the Sub-Committee noted that no specific text had been proposed for amending SOLAS regulation III/20.11.2 or the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* and, having generally agreed with the proposed understanding (SSE 3/4, paragraph 7), invited IACS to submit its understanding to III 3 for consideration under agenda item on "Lessons learned and safety issues identified from the analysis of marine safety investigation reports".

Instructions to the LSA Working Group

4.15 The Sub-Committee instructed the LSA Working Group established under agenda item 3 (Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III) to finalize the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, based on annex 1 to document SSE 3/4/3; draft consequential amendments to SOLAS regulations III/3 and III/20, based on the annex to document SSE 3/4/1; the draft MSC circular on *Guidelines on safety during abandon ship drills using lifeboats*, based on annex 2 to document SSE 3/4/3; and MSC.1/Circ.1205, based on annex 3 to document SSE 3/4/2.

Report of the LSA Working Group

4.16 Having considered the part of the report of the LSA Working Group (SSE 3/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 4.17 to 4.21 below.

Draft amendments to SOLAS regulations III/3 and III/20

4.17 The Sub-Committee, having noted the following views of the group:

.1 a new definition of "Requirements for maintenance, thorough examination, operational testing, overhaul and repair" should be added to SOLAS regulation III/3; and

.2 bearing in mind that the MSC 1/Circ.1206/Rev.1 would be superseded, the reference to "guidelines developed by the Organization" and the corresponding footnote should be deleted; and, in new paragraph 11.2.3 of SOLAS regulation III/20, the reference to "guidelines developed by the Organization" should be replaced with "Requirements for maintenance, thorough examination, operational testing, overhaul and repair",

endorsed the draft amendments to SOLAS regulations III/3 and III/20, as set out in annex 2, for submission to MSC 96 for adoption.

Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear

4.18 The Sub-Committee noted the group's deliberation on the draft MSC resolution and endorsed the following views on the section for "Qualification levels and certification":

.1 the definitions of "authorized service provider" and "manufacturer" would be helpful for clarification purposes;

.2 a service provider other than the original equipment manufacturer (OEM) has to be authorized by the Administration;

.3 the OEM need not be authorized;

.4 the Administration must ensure that thorough examination, operational testing, repair and overhaul of equipment is carried out in accordance with SOLAS regulation III/20 by service providers authorized in accordance with section 7 of the annex to the draft MSC resolution. Furthermore, the conditions for authorization of service providers shall apply equally to equipment manufacturers when they are acting as authorized service providers;

.5 the draft MSC resolution is clear in itself and the introduction of the three-tier structure would only confuse the reader;

.6 the following decisions should be properly implemented in paragraphs 4.1, 4.2 and 4.3 of the annex to the draft MSC resolution:

.1 the maintenance as well as weekly and monthly inspections can be carried out by the ship's crew;

.2 annual thorough examination shall be carried out by the manufacturer or a service provider authorized by the Administration, noting that a service provider may be a ship operator complying with the relevant criteria; and

.3 repair and overhaul of equipment, including over-hauling and test carried out at least once every five years, must be carried out by the manufacturer or authorized service provider;

.7 the qualification of service personnel of authorized service providers, as well as of manufactures, must be certified in accordance with section 8 of the annex to the draft MSC resolution and this should be clarified in paragraphs 4.2 and 4.3;

.8 with regard to the activities related to the annual thorough examination, i.e. whether such activities may be done by members of the ship's crew as well, provided they are sufficiently certified and authorized, the most appropriate implementation of the Committee's decision is to refer to the ship's operator as a potentially authorized entity;

.9 the reference to ship operator as potential service provider shall not be included in the paragraph 4.3 of the annex to the draft MSC resolution; and

.10 with regard to the possibility to limit the authorization of a service provider in scope, it was agreed that paragraph 7.4.1 of the annex to the draft MSC resolution provides such a limitation and there is no need to amend the draft MSC resolution in this respect.

4.19 Following discussion, the Sub-Committee endorsed the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, as set out in annex 3, for submission MSC 96 for adoption, in conjunction with the adoption of the draft associated SOLAS amendments (see paragraph 4.17).

Draft MSC Circular on Guidelines on safety during abandon ship drills using lifeboats and MSC.1/Circ.1205

4.20 The Sub-Committee, having noted that the group was not in a position to conduct the detailed review either of the draft MSC circular on *Guidelines on safety during abandon ship drills using lifeboats* or the draft amendments to MSC.1/Circ.1205, endorsed the group's view that a detailed review of the draft MSC circular on *Guidelines on safety during abandon ship drills using lifeboats* and the draft amendments to MSC.1/Circ.1205, as set out in annexes 4 and 5 to document SSE 3/WP.3, was needed in order to capture possible inconsistencies deriving from the revision of the draft MSC resolution, and invited Member Governments and international organizations to submit comments and proposals to SSE 4. MSC 96 was invited to agree with the above decision of the Sub-Committee.

Extension of the target completion year

4.21 In view of the above, the Sub-Committee requested the Committee to extend the target completion year for this output to 2017.

5 REVIEW OF THE MODU CODE, LSA CODE AND MSC.1/CIRC.1206/REV.1

General

5.1 The Sub-Committee recalled that SSE 2, having noted the views expressed on the proposed amendments to the 2009 MODU Code, the LSA Code, the *Revised recommendation on testing of life-saving appliances* (MSC.81(70)), the Measures to prevent accidents with lifeboats (MSC.1/Circ.1206/Rev.1) and the *Recommendations for the training and certification of personnel on mobile offshore units (MOUs)* (A.1079(28)), had decided to establish a Correspondence Group on Review of the MODU and LSA Codes and MSC.1/Circ.1206/Rev.1, with the terms of reference as set out in paragraph 12.5 of document SSE 2/20, and had instructed the group to submit a report to this session.

5.2 The Sub-Committee also recalled that SSE 2 had agreed to refer the proposals and comments related to manning, as contained in documents SSE 2/12 (annex, paragraphs 12 and 13) and SSE 2/12/1 (paragraph 12) to HTW 3, for consideration with a view to providing general advice and input to SSE 3.

Outcome of HTW 3

5.3 The Sub-Committee also noted the following information orally provided by the Secretariat on the related outcome of HTW 3:

.1 HTW 3 instructed the Working Group on Human Element issues to consider the proposed amendments contained in paragraphs 12 and 13 of the annex to document SSE 2/12, taking into account the comments contained in paragraph 12 of document SSE 2/12/1. The group, having considered the proposed amendments, did not make any changes to the proposed amendments. However, with regard to the amendments proposed in paragraph 13 of the annex to document SSE 2/12, the group was of the view that the crew who were required to operate shutdown logic systems should be familiarized with the system and should receive appropriate training. Also, human element aspects should be considered in the design of these systems.

.2 HTW 3, having noted that no changes to the proposed amendments contained in paragraphs 12 and 13 of the annex to document SSE 2/12 were suggested by the Working Group on Human Element issues, endorsed the group's views regarding paragraph 13 of the annex to document SSE 2/12 that "the crew who were required to operate shutdown logic systems should be familiarized with the system and should receive appropriate training" and that "human element aspects should be considered in the design of these systems".

5.4 Having considered the above information, the Sub-Committee agreed to note it without taking any specific actions.

Report of the Correspondence Group and the related submission

5.5 The Sub-Committee, having considered the report of the Correspondence Group on Review of the MODU and LSA Codes and MSC.1/Circ.1206/Rev.1 (SSE 3/5), providing information of the discussions in the group and draft amendments to MSC.1/Circ.1206/Rev.1, the 2009 MODU Code, the LSA Code and resolution MSC.81(70), together with document SSE 3/5/1 (Liberia et al.), providing comments on the draft amendments to the 2009 MODU and LSA Codes proposed by the correspondence group, noted the following:

.1 the views expressed on the proposal to increase the occupant weight and seating radius for lifeboat installed on MODUs were split; and

.2 by including any MODU-related amendments in IMO instruments falling under the SOLAS Convention, they will become mandatory and any future amendments to these MODU-related provisions will need to comply with SOLAS article VIII (Amendments), taking into account that the MODU Code is a non-mandatory instrument. This would set a precedent by developing mandatory provisions for MODUs, most of which are regulated by national laws and/or regional agreements.

5.6 In considering the actions requested in paragraph 30 of the report of the Correspondence Group (SSE 3/5), the Sub-Committee approved the report in general and took the following actions:

.1 instructed the LSA Working Group established under agenda item 3 (Safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III*) to further consider:

.1 draft amendments to annex 2 of MSC.1/Circ.1206/Rev.1, set out in annex 1 to document SSE 3/5, taking into consideration the work that may be carried out under agenda item 4;

.2 draft amendments to chapters 10 and 14 of the 2009 MODU Code, set out in paragraphs 12 to 14 and 18 to 23 of annex 2 to document SSE 3/5, taking into account the relevant comments in document SSE 3/5/1; and

.3 further consider the issue of the occupant weight and seating radius for lifeboat installed on MODUs,

and advise the Sub-Committee on how best to proceed (see paragraph 5.7);

.2 agreed that the Working Group on Fire Protection should be instructed to further consider draft amendments to chapters 1, 6, 9 and 14 of the 2009 MODU Code, set out in paragraphs 1 to 11, 15, 16, 24 and 25 of annex 2 to document SSE 3/5, taking into account the additional comments in paragraphs 21 and 22 of document SSE 3/5 and the relevant comments in document SSE 3/5/1; and advise the Sub-Committee on how best to proceed (see paragraph 5.8);

.3 agreed, in principle, to re-establish a Correspondence Group on Review of the MODU and LSA Codes and MSC.1/Circ.1206/Rev.1 depending on the outcomes of the LSA and Fire Protection Working Groups, and invited interested Member Governments and international organizations to prepare draft terms of reference for consideration at this session;

.4 noted that the coordinator of the correspondence group had withdrawn the action requested in paragraph 30.4 of the group's report;

.5 decided that the proposed draft amendments to the 2009 MODU Code should be applied only to new units; and

.6 also concluded that the proposal to request a dedicated rescue boat and radiant heat protection of escape routes for all types of ships was not within the scope of this output and that, therefore, interested Member Governments should submit a proposal for the new output, or extension of the existing output, to the Maritime Safety Committee.

Instructions to the LSA Working Group

5.7 Taking into account the above decisions, the Sub-Committee instructed the LSA Working Group established under agenda item 3 (Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III), if time permits, taking into account the comments and decisions made in plenary, to consider:

.1 the draft amendments to annex 2 of MSC.1/Circ.1206/Rev.1, set out in annex 1 to document SSE 3/5, taking into consideration the work that may be carried out under agenda item 4;

.2 the draft amendments to chapters 10 and 14 of the 2009 MODU Code, set out in paragraphs 12 to 14 and 18 to 23 of annex 2 to document SSE 3/5, taking into account the relevant comments in document SSE 3/5/1; and

.3 the issue of the occupant weight and seating radius for lifeboat installed on MODUs,

and advise the Sub-Committee on how best to proceed;

Establishment of a Working Group on Fire Protection

5.8 Following discussion and recalling the relevant decision at MSC 95, the Sub-Committee established the Working Group on Fire Protection and instructed it, if time permits, to consider, taking into account the comments made in plenary, the draft amendments to chapters 1, 6, 9 and 14 of the 2009 MODU Code, set out in paragraphs 1 to 11, 15, 16, 24 and 25 of annex 2 to document SSE 3/5, taking into account the additional comments in paragraphs 21 and 22 of document SSE 3/5 and the relevant comments in document SSE 3/5/1, and advise the Sub-Committee on how best to proceed.

Report of the LSA Working Group

5.9 Having considered the part of the report of the LSA Working Group (SSE 3/WP.3) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 5.10 and 5.11.

5.10 The Sub-Committee noted the following in regard to the group's deliberations on the draft amendments to 2009 MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1:

.1 no amendments to MSC.1/Circ.1206/Rev.1 are necessary, but the introduction of such draft amendments into chapter 14 of the 2009 MODU Code is more suitable;

.2 concerning inflation of a training liferaft whenever practicable as suitable for training purposes, a similar paragraph has already been included in SOLAS regulation III/19;

.3 the introduction of the draft amendments to the 2009 MODU Code proposed by the correspondence group (SSE 3/5, annex, paragraphs 12 to 14, 18, 19 and 22 to 23) has been unanimously agreed by the group;

.4 the discussion on the issue of the occupant weight and seating radius for lifeboat installed on MODUs has not been concluded by the group and, therefore, further consideration by the Sub-Committee is necessary; and

.5 the majority of the group welcomed the proposed increase in occupant weight and also the possibility to further adjust the average weight if necessary.

5.11 Following discussion, the Sub-Committee endorsed the draft amendments to the 2009 MODU Code, as set out in annex 6 to document SSE 3/WP.3 (see also paragraph 5.14).

Report of the Working Group on Fire Protection

5.12 Having considered the part of the report of the Working Group on Fire Protection (SSE 3/WP.4) dealing with the agenda item, the Sub-Committee, and having noted that:

.1 with regard to emergency conditions due to drilling operations and flammable gas detection and alarm system, the group was unable to suggest any concrete modification to the proposed amendments and had therefore agreed to take no action on those issues;

.2 the group had agreed to insert the reference to standard ISO/DIS 20902-1 (*Hydrocarbon fire test procedures for divisional elements that are typically used in oil & gas installations — Part 1: General requirements*) in the definition of "H" class division (i.e. in the draft new paragraph 1.3.26 of chapter 1 of the 2009 MODU Code);

.3 regarding the portable and transportable equipment, the group agreed that it was more appropriate to address the issue in the draft new section 14.17 (Hazardous areas) of the 2009 MODU Code, as this would avoid difficulties in keeping records and certification of portable and transportable equipment that are introduced or remain in the area when hazardous vapours are likely to be present;

.4 it had been agreed to delete the draft new paragraph 14.1.3.18 of chapter 14 of the 2009 MODU Code, as the equipment list should not be placed in the Operation Manual; and

.5 it had also been agreed to modify the draft paragraph 6.6.3 of chapter 6 of the 2009 MODU Code to indicate that a register of electrical equipment in the indicated hazardous areas, including a description of the equipment, should be maintained,

endorsed the draft amendments to chapters 1, 6, 9 and 14 of the 2009 MODU Code, as set out in annex 2 to document SSE 3/WP.4 (see also paragraph 5.14).

Further work on review of the 2009 MODU Code

5.13 Taking into account the relevant parts of the reports of the LSA Working Group (SSE 3/WP.3) and the Working Group on Fire Protection (SSE 3/WP.4), the Sub-Committee decided that the Correspondence Group on Review of the MODU and LSA Codes and MSC.1/Circ.1206/Rev.1 need not be re-established. Instead, the delegation of the Marshall Islands volunteered to submit a consolidated text of the draft amendments to the 2009 MODU Code for consideration at SSE 4.

Extension of the target completion year

5.14 In view of the above, the Sub-Committee requested the Committee to extend the target completion year for this output to 2017.

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

General

6.1 The Sub-Committee recalled that SSE 2, having noted the views expressed on this output, had decided to re-establish the Correspondence Group on Life Safety Performance Criteria for Alternative Design and Arrangements for Fire Safety (MSC/Circ.1002), with the terms of reference set out in paragraph 5.9 to document SSE 2/20, and had instructed the group to submit a report to this session.

Proposed draft amendments to MSC/Circ.1002

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

.1 SSE 3/6 (ISO), reporting that the coordinator could not conduct the business of the correspondence group owing to a heavy workload. However, since the coordinator has been involved in the recent development of the ISO standards on fire safety engineering, he has developed an investigation report for the determination of life safety criteria for alternative design and arrangements for fire safety, based on various ISO standards;

.2 SSE 3/6/1 (United States), proposing a revision of the draft *Guidelines for the selection of life safety performance criteria* set out in annex 3 to document SSE 2/WP.4, based on the progress made at SSE 2 and taking into account the concerns expressed at SSE 2 and the documents listed in paragraph 5.9 to document SSE 2/20; and

.3 SSE 3/6/2 (China), commenting on document SSE 3/6 in regard to the methods for calculation of heat, visibility and toxicity, and the method for determination of Available Safe Egress Time (ASET), and providing suggestions on the development of life safety performance criteria.

6.3 In considering documents SSE 3/6, SSE 3/6/1 and SSE 3/6/2, the Sub-Committee noted the following views expressed on this matter:

.1 the life safety performance criteria are intended for Administrations to use uniformly to achieve minimum acceptable levels of safety in conformity with the fire safety objective "to reduce the risk to life caused by fire"; however, since they are minimum performance criteria (i.e. the minimum standardized thresholds to maintain public safety wherever deviations from the prescriptive rules are requested), they will not restrict Administrations that may want to establish more conservative or more comprehensive standards;

.2 with regard to the method for evaluating the Available Safe Egress Time (ASET), the current draft ASET method should be amended by including the range of height from zero to two metres above the deck being considered;

.3 application of alternative design and arrangements for fire safety should be considered as an objective for the development of life safety performance criteria, and criteria value and determination methods should facilitate application and operation, rather than prolong the process by being complicated and theoretical;

.4 bearing in mind that values for the performance criteria thresholds are based on peer-reviewed research and widely accepted guidance documents used by fire protection practitioners for this purpose, such guidance documents may be referred to in appendix C (Technical references and resources) to the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002);

.5 for parameters such as heat, visibility, height of smoke layer and poisonous gas, a certain consensus has already been reached and the basis for application of such parameters (i.e. the criteria value) has been established internationally;

.6 for asphyxiation gases, the criteria should be determined by the total amount of inhalation of these gases, and it should be further explained that simple criteria for these gases based on concentration only would result in misjudgement (e.g. exposure to 1000 ppm of CO gas for more than 20 or 30 minutes would result in a very serious situation, such as unconsciousness, incapacitation or even worse); and

.7 documents SSE 2/5 (United States) and SSE 2/5/1 (Germany) need to be taken into account when finalizing the draft guidelines.

6.4 Following discussion, the Sub-Committee agreed that the Working Group on Fire Protection, established under agenda item 5 (Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1) should be instructed to finalize the draft *Guidelines for the selection of life safety performance criteria*, based on the text set out in annex 1 to document SSE 3/6/1, taking into account documents SSE 3/6, SSE 3/6/2, SSE 2/5 and SSE 2/5/1.

Instructions to the Working Group on Fire Protection

6.5 The Sub-Committee instructed the Working Group on Fire Protection, established under agenda item 5 (Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1), to finalize the draft *Guidelines for the selection of life safety performance criteria*, based on the text set out in annex 1 to document SSE 3/6/1, taking into account documents SSE 3/6, SSE 3/6/2, SSE 2/5 and SSE 2/5/1.

Report of the Working Group on Fire Protection

6.6 Having considered the part of the report of the Working Group on Fire Protection (SSE 3/WP.4) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 6.7 and 6.8.

6.7 The Sub-Committee noted the following views expressed by the group:

.1 when used with the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002) and with some additional guidance on probabilistic risk assessment, Administrations should employ common criteria for approval of alternative design;

.2 in case of an instantaneous exposure, the maximum CO concentration should be 1200 ppm and the threshold value for cumulative exposure to CO over time should also be introduced into life safety performance criteria;

.3 the draft *Guidelines for the selection of life safety performance criteria* should be included in the *Guidelines on alternative design and arrangements for fire safety (MSC/Circ.1002)* as a new appendix A and the existing appendices A to C should be renamed accordingly; and

.4 the references which were used in the evaluation of the draft *Guidelines for the selection of life safety performance criteria* should be included in the renamed appendix D (Technical references and resources).

6.8 In light of the foregoing, the Sub-Committee endorsed the draft amendments to the *Guidelines on alternative design and arrangements for fire safety (MSC/Circ.1002)* and the associated draft MSC circular, as set out in annex 4, for submission to MSC 97 for approval.

Completion of the work on the output

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

7 CLARIFICATION OF THE REQUIREMENTS IN SOLAS CHAPTER II-2 FOR FIRE INTEGRITY OF WINDOWS ON PASSENGER SHIPS CARRYING NOT MORE THAN 36 PASSENGERS AND SPECIAL PURPOSE SHIPS WITH MORE THAN 60 (BUT NO MORE THAN 240) PERSONS ON BOARD

General

7.1 The Sub-Committee recalled that MSC 95, having considered a recommendation to transfer all outputs related to SOLAS chapter II-2 from the SDC Sub-Committee to the SSE Sub-Committee, decided that, in future, new outputs related to SOLAS chapter II-2 would in principle be assigned to the SSE Sub-Committee, but would be considered on a case-by-case basis. In this connection, MSC 95 agreed to include, in the 2016-2017 biennial agenda of the SSE Sub-Committee and in the provisional agenda for SSE 3, a new planned output on "Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board", with a target completion year of 2017.

7.2 The Sub-Committee also recalled that MSC 95 further agreed, in accordance with MSC.1/Circ.1481 and MSC.1/Circ.1500, that:

.1 the scope of application of the amendments to be developed will be further discussed by the SSE Sub-Committee; however, the amendments should apply to new ships and existing ships after repairs, alterations and modifications of a major character;

.2 the instrument to be amended is the 1974 SOLAS Convention (i.e. SOLAS regulation II-2/9.4.1.3.3 and any other consequential amendments); and

.3 the amendments to be developed should enter into force on 1 January 2020, provided that the amendments are adopted before 1 July 2018.

Proposed draft amendments to SOLAS regulation II-2/9

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

.1 SSE 3/7 (Marshall Islands and IACS), discussing the requirements relating to the fire protection of windows on passenger ships and special purpose ships, suggesting that there is an unintended error in the text of SOLAS regulation II-2/9.4.1.3.3, and addressing the comments raised at SDC 2 on this issue; and

.2 SSE 3/7/1 (United States), proposing amendments to SOLAS regulation II-2/9.4.1.3 with a view to clarifying requirements for windows on passenger ships carrying not more than 36 passengers.

7.4 In considering documents SSE 3/7 and SSE 3/7/1, the Sub-Committee noted the following views expressed on this matter:

.1 SOLAS regulation II-2/9.4.1.3.3 is intended to be applicable only to passenger ships carrying more than 36 passengers and, consequently, to special purpose ships carrying more than 240 persons on board;

.2 for large passenger ships, SOLAS chapter II-2 requires that special attention be given to the fire integrity of windows facing open or enclosed lifeboat and liferaft embarkation areas, etc., in light of the specific fire risk of category (4) – Evacuation stations and external escape routes (see paragraph 2.2.3.2 and table 9.1 of SOLAS regulation II-2/9);

.3 the 1992 SOLAS amendments did not extend the requirement to small passenger ships in SOLAS regulation II-2/33.2, i.e. in table 9.3, which applies to passenger ships carrying not more than 36 passengers as per SOLAS regulation II-2/9.2.2.4.2, there is no category (4) – Evacuation stations and external escape routes;

.4 there was no decision to exempt passenger ships carrying not more than 36 passengers, and therefore the referral to table 9.1 of SOLAS regulation II-2/9 when considering passenger ships carrying not more than 36 passengers is confusing;

.5 specifying the use of "A-0" class windows to be clearer while providing a practical method of ensuring some level of fire integrity for the windows; it is also reasonable to specify the use of "A-0" class windows without requiring the bulkhead to meet "A-0" class; and

.6 SOLAS regulation II-2/9.4.1.3.3 should be clarified by splitting the text into three separate paragraphs: the first paragraph would be the requirements applicable to all passenger ships, the second paragraph would be the requirements for passenger ships carrying more than 36 passengers, and the third paragraph would be the requirements specific to passenger ships carrying not more than 36 passengers.

and agreed that the draft amendments set out in the annex to document SSE 3/7/1 should be used as a basis for further discussion and that the text of new paragraph 4.1.3.5 of SOLAS regulation II-2/9 should be further modified to read as follows:

"For ships carrying not more than 36 passengers, windows facing survival craft and escape slide embarkation areas and windows situated below such areas shall have fire integrity at least equal to "A-0" class."

7.5 Following discussion, the Sub-Committee agreed that the Working Group on Fire Protection, established under agenda item 5 (Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1) should be instructed to finalize the draft amendments to SOLAS regulation II-2/9.4.1.3, based on the annex to document SSE 3/7/1.

Instructions to the Working Group on Fire Protection

7.6 The Sub-Committee instructed the Working Group on Fire Protection, established under agenda item 5 (Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1), if time permits and taking into account the comments made and decisions taken in plenary, to finalize the draft amendments to SOLAS regulation II-2/9.4.1.3, based on the annex to document SSE 3/7/1.

Report of the Working Group on Fire Protection

7.7 Having considered the part of the report of the Working Group on Fire Protection (SSE 3/WP.4) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 7.8 to 7.10.

7.8 The Sub-Committee, having noted that the group agreed to:

.1 clarify SOLAS regulation II-2/9.4.1.3.3 by separating the text into two paragraphs, the first paragraph with the requirements applicable to passenger ships carrying more than 36 passengers, and the second paragraph with the requirements specific to passenger ships carrying not more than 36 passengers;

.2 introduce the requirement for use of "A-0" class windows; and

.3 replace the broad term "life-saving appliances" with the more appropriate term "survival craft",

endorsed the draft amendments to SOLAS regulation II-2/9.4.1.3, as set out in annex 5, for submission to MSC 97 for approval, with a view to subsequent adoption.

7.9 In connection with the above the delegation of Japan, noting the need of adding an application paragraph clarifying that the provisions for fire grading of windows in the new paragraphs 4.1.3.3 and 4.1.3.4 of SOLAS regulation II-2/9 apply to new ships and existing ships after repairs, alterations and modifications of a major character, invited the Sub-Committee to note that it will submit a document to MSC 97 proposing such an application paragraph.

Completion of the work on the output

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

8 MEASURES FOR ONBOARD LIFTING APPLIANCES AND WINCHES

General

8.1 The Sub-Committee recalled that SSE 2 had agreed to re-establish the Correspondence Group on Onboard Lifting Appliances and Winches, subject to decision by MSC 95, and to instruct it to develop draft IMO guidelines for onboard lifting appliances and winches, taking into account documents SSE 2/WP.5 and SSE 1/13/3, available standards such as those listed in annex 2 to document DE 57/WP.7, and identify additional elements of existing instruments that could be cross-referenced (ILO instruments, SOLAS, STCW, ISM Code, BLU Code, HSSC Guidelines, PSC Guidelines, etc.).

8.2 The Sub-Committee also recalled that SSE 2 had agreed to forward its recommendations on matters related to the scope and application of potential IMO guidelines (SSE 2/20, paragraph 8.13) and its conclusions on the need for amending any mandatory IMO instruments (SSE 2/20, paragraph 8.9) to MSC 95 for consideration and, if agreed, for authorizing the Correspondence Group on Onboard Lifting Appliances and Winches to begin its work.

8.3 The Sub-Committee further recalled that MSC 95 had agreed that IMO guidelines should be developed to cover design, fabrication and construction for new installations; onboard procedures for routine inspection, maintenance and operation of lifting appliances and winches; and familiarization of ship's crew and shore-based personnel, taking into account the data contained in document SSE 2/INF.2.

8.4 In this connection, the Sub-Committee recalled also that MSC 95, having agreed that a goal- and function-based SOLAS regulation should be developed to require that new onboard lifting appliances and winches be designed, constructed and installed either "in accordance with codes or standards acceptable to the Organization" or "to the satisfaction of the Administration" and maintained in accordance with guidelines for safety onboard lifting appliances and winches to be developed by the Organization, had instructed the Sub-Committee to continue the work on this output and, in particular, to advise MSC 97 on which SOLAS chapter should be amended and to develop the list of industry codes and/or standards to be contained in a footnote or an MSC circular, as appropriate.

8.5 The Sub-Committee recalled further that MSC 95, having considered the draft terms of reference proposed by SSE 2, had endorsed the Sub-Committee's decision to re-establish the Correspondence Group on Onboard Lifting Appliances and Winches and had instructed it, taking into account the outcome of SSE 2 and comments and decisions made at MSC 95, to:

.1 develop draft guidelines to cover the design, fabrication and construction for new installations; onboard procedures for routine inspection, maintenance and operation of lifting appliances and winches; and familiarization of ship's crew and shore-based personnel, taking into account the data contained in document SSE 2/INF.2; and

.2 prepare draft goal- and function-based SOLAS regulations requiring that onboard lifting appliances and winches be designed, constructed and installed either "in accordance with codes or standards acceptable to the Organization" or "to the satisfaction of the Administration"; and maintained in accordance with guidelines for safety onboard lifting appliances and winches to be developed by the Organization.

Report of the correspondence group and related submissions

8.6 The Sub-Committee, having considered the report of the correspondence group (SSE 3/8) and approved it in general, noted the following recommendations of the Group:

.1 further consideration is necessary of the definition of onboard lifting appliances and winches; the issue of the personnel transfer; the use of the expressions "codes or standards acceptable to the Organization" or "the guidelines developed by the Organization" and "in accordance with" or "based on"; the procedure in terms of inspection; whether the operations manual requires approval; and the threshold limit of safe working load (SWL); and

.2 further modification of the draft *Guidelines for safety onboard lifting appliances and winches* may be necessary after finalization of the definition of lifting appliances and winches and the scope of the guidelines.

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

.1 SSE 3/8/1 (Norway), explaining the background for the specific guidelines for anchor handling winches and associated equipment proposed by Norway in paragraphs 3.1.2.3 and 4.7 of the draft *Guidelines for safety onboard lifting appliances and winches*, set out in annex 2 to document SSE 3/8; and

.2 SSE 3/8/2 (China), providing comments on the report of the correspondence group, in particular, regarding the development of SOLAS requirements and the draft new *Guidelines for the safety of onboard lifting appliances and winches*.

8.8 In considering the above documents, the Sub-Committee noted the following general comments expressed on this matter:

.1 a number of delegations expressed concern regarding the outcome of the correspondence group's work related to the draft goal- and function-based SOLAS regulations. In their view this could be a very simple issue of referring to the requirements of a classification society recognized by the Administration (i.e. similar to SOLAS regulation II-1/3-1);

.2 further development of a definition of lifting appliances and the scope of application was outside the approved terms of reference;

.3 development of provisions for onboard lifting appliances and for winches should not be separated;

.4 the draft guidelines should contain references to the existing industry standards;

.5 issues related to anchoring and mooring were outside of this output, but anchor-handling winches need to be included;

.6 the use of GBS terminology needed to be considered when developing the draft goal- and function-based SOLAS regulations;

.7 reference to the requirements of a classification society might not be sufficient; and

.8 this matter is directly related to the safety of life and should be moved forward without any delay.

8.9 In view of the above comments, the Sub-Committee decided not to consider the actions requested in paragraph 19 of the report of the correspondence group (SSE 3/8), but instead to proceed directly with further development of the draft goals and functional requirements and preparation of the terms of reference for a correspondence group.

Development of a requirement for hoist winches to be tested following any maintenance, repair or modification (MSC.1/Circ.1331)

8.10 The Sub-Committee noted the information verbally provided by the Secretariat that SDC 3, taking into account that any requirements for hoist winches could be further developed under the existing output 5.2.1.22 (Requirements for onboard lifting appliances and winches), which was currently on the 2016-2017 biennial agenda of the Sub-Committee, decided to remove item 45 on "Development of a requirement for hoist winches to be tested following any maintenance, repair or modification (MSC.1/Circ.1331)" from its post-biennial agenda and invited MSC 96 to note this action as an editorial correction (SDC 3/21, paragraph 18.3).

Crane loads associated with hose handling at offshore terminals

8.11 The Sub-Committee, having noted document SSE 3/INF.5 (OCIMF), raising awareness regarding tankers that perform hose-handling operations with onboard cranes that are not certified according to offshore standards (e.g. API 2C) and providing information on crane loads associated with hose handling at offshore terminals, agreed that this document needs to be taken into account by the Working Group on Onboard Lifting Appliances and Winches, when considering dynamic loads.

Establishment of a working group

8.12 Following discussion and recalling the relevant decision at MSC 95, the Sub-Committee established the Working Group on Onboard Lifting Appliances and Winches and instructed it, taking into account the comments and decisions made in plenary, to:

.1 consider and develop goal(s) and functional requirements suitable for onboard lifting appliances and winches based on the instruction of MSC 95 (MSC 95/22, paragraphs 12.25 to 12.27);

.2 consider how best to proceed with regard to the further development of draft guidelines and SOLAS requirements for onboard lifting appliances and winches and advise the Sub-Committee accordingly;

.3 prepare terms of reference for a correspondence group; and

.4 submit a written report (part 1) and continue working through the week and submit part 2 of the report to SSE 4, as soon as possible after this session, so that it can be taken into account by a correspondence group, if established.

Report of the working group

8.13 Having considered the report of the working group (SSE 2/WP.5), the Sub-Committee approved it in general and took action as described in the following paragraphs.

Draft goals for the safety of onboard lifting appliances and winches

8.14 The Sub-Committee noted that the group agreed to focus on developing draft goals and functional requirements that could be applicable to all types of onboard lifting appliances and winches, taking into account that the exact definition of onboard lifting appliances and winches would eventually emerge from the draft functional requirements and guidelines developed to fulfil the draft goals.

8.15 The Sub-Committee also noted the progress made on the development of a preliminary set draft goals for the safety of onboard lifting appliances and winches (SSE 3/WP.5, annex).

Recommendations for the next steps in the development of measures for the safety of onboard lifting appliances and winches

8.16 Having noted the following views and recommendations with regard to the next steps in the development of measures for the safety of onboard lifting appliances and winches:

.1 if the draft functional requirements are properly addressed in the draft goals, there will be no need for additional guidelines to a goal- and function-based SOLAS regulation;

.2 even with a goal- and function- based SOLAS regulation, guidelines may still be needed to address the maintenance and operation, and most Administrations will welcome the availability of guidelines, particularly if the eventual SOLAS regulation includes the phrase "to the satisfaction of the Administration";

.3 the discussion on the potential content of the guidelines was premature and it should be considered once the draft goals and functional requirements are further developed;

.4 the draft list of goals and functional requirements developed during SSE 3 is not comprehensive, due to the limited time available;

.5 the goals and functional requirements need to be further developed by a correspondence group, if established; and

.6 the list of industry codes and/or standards (to be contained in a footnote to the SOLAS requirement or an MSC circular, as appropriate) should be further developed by a correspondence group, if established, based on annex 3 to document SSE 2/INF.2,

the Sub-Committee invited interested Member Governments and international organizations to submit proposals on which chapter of SOLAS should be amended to SSE 4.

Re-establishment of a correspondence group

8.17 Following discussion, the Sub-Committee re-established the Correspondence Group on Onboard Lifting Appliances and Winches, under the coordination of Japan[2], and instructed it, taking into account documents SSE 3/WP.5, SSE 3/8, SSE 3/8/1, SSE 3/8/2 and SSE 3/INF.5, MSC.1/Circ.1394/Rev.1, part 2 of the report of the Working Group on Lifting Appliances and Winches at SSE 3 and the instruction from MSC 95 (MSC 95/22, paragraphs 12.25 to 12.27), to:

.1 further develop goals and functional requirements suitable for onboard lifting appliances and winches;

.2 further develop draft guidelines supporting the goals and functional requirements, if necessary, to cover the design, fabrication and construction for new installations; onboard procedures for routine inspection,

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maintenance and operation of onboard lifting appliances and winches; and familiarization of ship's crew and shore-based personnel, taking into account the data contained in document SSE 2/INF.2 and annex 2 to document SSE 3/8;

.3 develop the list of the available industry codes and/or standards that could be contained in a footnote or the draft guidelines, as appropriate, taking into account annex 3 to document SSE 2/INF2;

.4 prepare draft goal- and function-based SOLAS regulations for onboard lifting appliances and winches; and

.5 submit a report to SSE 4.

8.18 In connection with the above terms of reference, the Sub-Committee noted that it might be impossible to organize the work of the Correspondence Group on Onboard Lifting Appliances and Winches precisely in the order of the terms of reference, because the development of functional requirements is expected to involve several iterations based on identified hazards, expert opinions on how the hazards can be mitigated and identification of the goal(s) that are fulfilled by a particular functional requirement. At every iteration, the list of draft functional requirements and goals would be refined and further developed with a view to ensuring that all the hazards are covered.

9 AMENDMENTS TO THE GUIDELINES FOR VESSELS WITH DYNAMIC POSITIONING (DP) SYSTEMS (MSC/CIRC.645)

General

9.1 The Sub-Committee recalled that SSE 2 established the Correspondence Group on Amendments to the Guidelines for vessels with dynamic positioning (DP) systems (MSC/Circ.645) and instructed it, taking into account the comments made and decisions taken at SSE 2, to prepare the draft amendments to MSC/Circ.645, based on the annex to document SSE 2/13, and consider the applicability of any revisions to the guidelines and make a recommendation as to whether the revisions should be applied to new and/or existing vessels.

Report of the correspondence group and related submissions

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

.1 SSE 3/9 (Norway), reporting the discussions in the correspondence group on draft amendments to MSC/Circ.645 and providing a number of compromise solutions in trying to meet all concerns raised;

.2 SSE 3/9/1 (Norway), providing comments on the outcome of the work carried out by the correspondence group and proposing some further amendments to the draft guidelines; and

.3 SSE 3/9/2 (Antigua and Barbuda et al.), commenting on the report of the correspondence group.

9.3 In considering the above documents, the Sub-Committee noted the following views and general comments expressed on this matter:

.1 more work is needed as there are still some square brackets to be solved;

.2 there are some parts of the draft new guidelines developed by the correspondence group where the wording seems unclear, and there are a number of paragraphs, in the draft guidelines, that seem not to fully comply with the current industry standards;

.3 any future work should focus on ensuring the guidelines continue to provide high-level guidance, should be limited to the issues in square brackets, submissions to SSE 3 on the subject and any comments and decisions made in plenary at SSE 3, and should concentrate on refining the existing draft Guidelines; and

.4 if a section on training is to be included, it should also reference MSC.1/Circ.738 on *Guidelines for Dynamic Positioning (DP) Operator Training*.

9.4 In considering the actions requested in paragraph 17 of the report of the correspondence group (SSE 3/9), the Sub-Committee approved the report in general and took the following actions:

.1 endorsed the group's view that no measures for DP class 0 should be included in the draft guidelines at this stage;

.2 noted the discussion on the Flag State Verification and Acceptance Document (FSVAD) and endorsed the group's proposal to rename it as the "Dynamic Positioning Verification Acceptance Document (DPVAD)";

.3 endorsed the compromise solution for exemptions and alternative design (i.e. the inclusion of some text in the preamble referring to exemptions and alternative design) and the decision not to include any specific exemptions in the draft guidelines;

.4 endorsed the group's recommendation that the draft Guidelines should be issued as a new set of guidelines;

.5 endorsed the group's recommendation to include a section on training, agreed to remove the square brackets around the proposed text of section 6 and the sentence referring to MSC.1/Circ.738/Rev.1, and invited HTW 4 to note the above decisions; and

.6 noted the group's recommendation that the guidelines, in general, should apply to vessels and units constructed on or after an agreed date.

9.5 The Sub-Committee also agreed that any future work should be limited to the issues in square brackets, submissions to SSE 3 on the subject and the decisions made at SSE 3.

Re-establishment of a correspondence group

9.6 Having considered the above matters and in order to progress the work intersessionally, the Sub-Committee decided to re-establish the Correspondence Group on Amendments to the *Guidelines for Vessels with Dynamic Positioning (DP) Systems* (MSC/Circ.645), under the coordination of Norway[3], and instructed it, with a view to finalizing the draft Guidelines, taking into consideration the decisions made at SSE 3, to:

.1 resolve the remaining issues in square brackets, as set out in the annex to document SSE 3/9;

.2 consider the proposed amendments to the draft guidelines set out in the annex to document SSE 3/9/1; and

.3 submit a report to SSE 4.

Extension of the target completion year

9.7 The Sub-Committee requested the Committee to extend the target completion year for this output to 2017.

10 REVISION OF REQUIREMENTS FOR ESCAPE ROUTE SIGNS AND EQUIPMENT LOCATION MARKINGS IN SOLAS AND RELATED INSTRUMENTS

General

10.1 The Sub-Committee recalled that SSE 2 invited interested Member Governments and international organizations to further consider the proposal in document MSC 94/18/6 (United States and ISO), taking into account the views expressed at SSE 2 (SSE 2/20, paragraph 16.3), and submit comments and proposals to this session.

Proposed amendments to SOLAS chapter II-2 and the FSS Code

10.2 The Sub-Committee had for its consideration document SSE 3/10 (United States), providing proposals for harmonizing the requirements of SOLAS regulations II-2/13, III/9, III/11 and III/20 related to escape route signs and equipment location markings, which included two options for consideration, taking into account the ISO standard 24409 series on *Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings*.

10.3 In this connection, the Sub-Committee recalled that MSC 75 (MSC 75/24, paragraph 12.20), having noted that ISO was developing a new ISO standard for shipboard signage for life-saving appliances and arrangements and means of escape, had agreed that, once the aforementioned standard was published, it may be taken into consideration in the context of revising resolution A.760(18) on *Symbols related to life-saving appliances and arrangements*, as amended by resolution MSC.82(70). [4]

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[4] Refer to *Shipboard plans for fire protection appliances, life-saving appliances and means of escape* (MSC/Circ.1050, paragraph 7).

10.4 In considering how to incorporate the relevant parts of the ISO standard 24409 series within the IMO regulatory framework, taking into account the proposals in document SSE 3/10, the Sub-Committee agreed that only the graphical symbols contained ISO 24409-2:2014 needed to be incorporated into any future IMO instrument, without any changes, similar to the actions taken by MSC 77 when approving the draft Assembly resolution on *Graphical symbols for shipboard fire control plans* (MSC 77/26, annex 14), which was subsequently adopted by resolution A.952(23). In regard to the proposed options contained in document SSE 3/10, the Sub-Committee decided not to amend SOLAS chapter II-2 or the FSS Code and, instead, agreed to prepare a revision of resolution A.760(18), as amended, with a view to replacing the relevant footnotes. In this connection, the Sub-Committee also agreed that the existing IMO symbols set out in resolution A.760(18), as amended by resolution MSC.82(70), could continue to be used on existing ships.

10.5 In connection to the above decision, the Sub-Committee, recognizing the benefits of using universally understood symbols for shipboard signage, endorsed the draft MSC circular on *Shipboard escape route signs and emergency equipment markings*, as set out in annex 6, for submission to MSC 97 for approval, as an interim measure, so that the ISO standard 24409 series could be used on a voluntary basis in anticipation of the pending the adoption of the revised resolution.

Communication with the ISO Central Secretariat

10.6 Since the work on the ISO standard 24409 series was conducted in cooperation with IMO, the Sub-Committee requested the Secretariat to communicate with the ISO Central Secretariat to seek their support for the above actions and avoid any copyright issues, with a view to reporting the outcome of the above communications to MSC 97.

Preparations for SSE 4

10.7 In considering how best to progress the work intersessionally, the Sub-Committee requested the Secretariat, in cooperation with the ISO Central Secretariat, to prepare a draft MSC resolution containing only the graphical symbols from ISO 24409-2:2014, similar to resolution A.952(23), for consideration at SSE 4. However, the above document should not be published until after MSC 97 has considered the course of action proposed by the Sub-Committee and the views of the ISO Central Secretariat on this matter.

Extension of the target completion date

10.8 Taking into account the decisions made at the session, the Committee was invited to endorse the above plan of action and extend the target completion date to 2017.

11 REVISED SOLAS REGULATIONS II-1/13 AND II-1/13-1 AND OTHER RELATED REGULATIONS FOR NEW SHIPS

General

11.1 The Sub-Committee recalled that MSC 95 considered a proposed justification for a new output related to watertight doors closure control on new ships (MSC 95/WP.12, annex 2) and agreed to include in the 2016-2017 biennial agenda of the Sub-Committee and the provisional agenda of SSE 3, a new planned output on "Revision of SOLAS regulations II-1/13 and II-1/13-1 and other related regulations for new ships", with a target completion year of 2017, in association with the SDC Sub-Committee as and when requested by the Sub-Committee.

Proposal for the introduction of anti-crushing protection to watertight doors

11.2 The Sub-Committee had for its consideration document SSE 3/11 (Austria et al.), proposing to introduce protection against crushing of people during the daily operation of watertight doors, while retaining the existing SOLAS requirement to close watertight doors firmly in case of an emergency, and to consider the recommendations of the EMSA 3 study related to watertight doors.

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

.1 the aim of the EMSA 3 recommendations was to minimize the use of watertight doors, both at the design stage and during the ship's operations and, therefore, these recommendation (i.e. "improve onboard monitoring to quantify impact of WTDs explicitly" and "improve training for emergencies and improve design guidelines") were not within the remit of this Sub-Committee;

.2 document MSC 95/WP.12 referred to the number of standards that should be reviewed before preparing draft SOLAS amendments;

.3 the work could not be started at this stage, as no objective evidence of benefits/practicality of, or any other technical information on, application of anti-crushing protection (ACP) in marine environment has been presented;

.4 the application of ACP on cargo ships was not justified; and

.5 the proposed technology and existing standards should be considered by a correspondence group;

11.4 Having considered the above comments, the Sub-Committee concluded that the aim of the EMSA 3 recommendations is "to minimize the use of watertight doors, both at the design stage and during the ship's operations" and, therefore, these recommendations, in particular "to improve onboard monitoring to quantify impact of WTDs explicitly" and "to improve training for emergencies and improve design guidelines", were not within the remit of this Sub-Committee.

Establishment of a correspondence group

11.5 In light of the foregoing and in order to progress the work intersessionally, the Sub-Committee decided to establish the Correspondence Group on Anti-crushing Protection to Watertight Doors, under the coordination of the European Commission[5], and instructed it, taking into account annex 2 to document MSC 95/WP.12, document SDC 2/3/7, and comments and decisions made at SSE 3, to:

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.1 identify relevant industry standards for anti-crushing protection (ACP) that can be applied to doors such as:

- the Norwegian Offshore regulations (NORSOK C002);
- other standards related to doors or equipment with ACP devices that are used in shore side industry or other offshore areas; and
- ISO standards;

.2 identify relevant existing applications, including to which standards such applications have been designed, taking into account paragraph 27 of annex 2 to document MSC 95/WP.12;

.3 consider which elements of those standards might be suitable for application to watertight doors on ships; and

.4 submit a report to SSE 4.

12 UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, AND ENVIRONMENT RELATED CONVENTIONS

General

12.1 The Sub-Committee recalled that this was a continuous item on the biennial agenda and that the Assembly, at its twenty-eighth session, had expanded the output to include all proposed unified interpretations to provisions of IMO safety, security and environment related Conventions, so that any newly developed or updated draft unified interpretation could be submitted for the consideration of the Sub-Committee, with a view to developing an appropriate IMO interpretation.

12.2 The Sub-Committee agreed firstly to consider documents SSE 3/12/4, SSE 3/12/5, SSE 3/12/8, SSE 3/12/14, SSE 3/12/15 and SSE 3/12/16 (IACS) and SSE 3/12/9 (Austria et al.), with a view to finalizing the terms of reference for the Working Group on Fire Protection, established under agenda item 5 (Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1), and then to deal with the remaining documents in the numerical order.

Smoke generation potential and toxicity of floor coverings in cargo ships and passenger ships carrying less than 36 passengers

12.3 In considering document SSE 3/12/4, requesting for clarification as to whether the interpretation of the smoke and toxicity requirements, as set out in the appendix to the annex to MSC/Circ.1120, should apply to "corridors and stairway enclosures only" or to "all areas", on cargo ships, and confirmation whether or not the provisions of table 1 of annex 3 to the 2010 FTP Code are applicable to passenger ships carrying not more that 36 passengers, the Sub-Committee noted the following views:

.1 there appears to be a difference in the way that the application of the smoke and toxicity for floor coverings could be interpreted for cargo ships;

.2 there is also a difference in the extent of application between cargo ships and passenger ships carrying more than 36 passengers; and

.3 guidance on the requirements for exposed floor coverings applicable to passenger ships carrying more than 36 should also apply to passenger ships carrying not more than 36 passengers,

and endorsed the view that guidance on the requirements for exposed floor coverings applicable to passenger ships carrying more than 36 should also apply to passenger ships carrying not more than 36 passengers. Subsequently, the Sub-Committee agreed to instruct the Working Group on Fire Protection to further consider the matter and advise the Sub-Committee accordingly (see paragraph 12.13).

Fixed fire detection and fire alarm systems

12.4 The Sub-Committee, having considered document SSE 3/12/5, advising that paragraph 2.2.4 of chapter 9 of the FSS Code may be implemented in a non-uniform manner, and, more specifically, may lead to different approaches when sizing the emergency power source for the fire detection and alarm system, endorsed the IACS view that the wording "at the end of that period" should be interpreted in the following way:

> "the '30 minutes' in paragraph 2.2.4 of chapter 9 of the FSS Code means the last 30 minutes of the periods required under SOLAS regulations II-1/42 and II-1/43 (18 hours for cargo ships and 36 hours for passenger ships)"

and endorsed the draft MSC circular on *Unified interpretation of chapter 9 of the FSS Code*, as set out in annex 7, for submission to MSC 97 with a view to approval.

Fire integrity of the bulkheads between the wheelhouse and a toilet inside the wheelhouse

12.5 In considering document SSE 3/12/8, providing a draft unified interpretation on the fire integrity of the bulkheads between the wheelhouse and a toilet inside the wheelhouse, in the context of the application of tables 9.3, 9.5 and 9.7 of SOLAS regulation II-2/9, the Sub-Committee noted the following views:

.1 in accordance with SOLAS regulation II-2/9.2.2.3.2.2(9), table 9.1 of SOLAS regulation II-2/9, and, in particular, note "a" to table 9.1 of SOLAS regulation II-2/9, no fire rating is required for bulkheads between the wheelhouse and a toilet installed completely within the wheelhouse;

.2 it is necessary to clarify whether a "B-0" fire rating, or no fire rating, is required for bulkheads between the wheelhouse and a toilet that is installed completely within the wheelhouse; and

.3 the Procedures for Port State Control are clear – "Queries on the method of structural protection should be addressed to the flag Administration and the PSCO should generally confine the inspection to the effectiveness of the arrangements provided", in this connection, it is proposed that this matter should be brought to the attention of the III Sub-Committee so that PSC MOUs could be apprised of the importance of adherence to the Procedures.

12.6 Following discussion, the Sub-Committee, having endorsed the view that no fire rating is required for bulkheads between the wheelhouse and a toilet that is installed completely within the wheelhouse, agreed to the draft MSC circular on Unified interpretations of SOLAS chapter II-2, as set out in annex 8, for submission to MSC 97 with a view to approval. The Sub-Committee also endorsed the view that the matter should be brought to the attention of the III Sub-Committee and invited III 3 to recall that "queries on the method of structural

protection should be addressed to the flag Administration and the PSCO should generally confine the inspection to the effectiveness of the arrangements provided" and encourage PSC MOUs to adhere to the Procedures for port State control.

Sizing of the pumps and pressure tank for automatic sprinkler systems

12.7 The Sub-Committee, having considered document SSE 3/12/9, proposing that the clarification regarding the intent of the requirements in the FSS Code pertaining to the sizing of the pumps and pressure tank for automatic sprinkler systems would refer to the nominal method for dimensioning, noted that no draft amendments to the FSS Code have been proposed and decided to instruct the Working Group on Fire Protection to further consider the matter and advise the Sub-Committee accordingly (see paragraph 12.13).

Requirements for individually identifiable fire detectors

12.8 In considering document SSE 3/12/14, commenting on the change in the fault requirements in paragraph 2.1.6.1 of chapter 9 of the FSS Code, as amended by resolution MSC.311(88), and providing further analysis to be taken into account when considering whether any amendments to the FSS Code need to be proposed in relation to this issue, the Sub-Committee noted the IACS view that the amendments introduced by resolution MSC.311(88) place more onerous fault requirements on individually identifiable systems than on section identifiable systems has received no strong support and, therefore, agreed to take no action.

Implementation of SOLAS regulations II-2/3.56 and II-2/20-1, as amended by resolution MSC.365(93)

12.9 The Sub-Committee, having considered document SSE 3/12/15, seeking clarification regarding the application of regulations 3.56 and 20-1 of SOLAS chapter II-2, as amended by resolution MSC.365(93), noted the following views:

.1 the definition of vehicle carrier in SOLAS regulation II-2/3.56, as amended by resolution MSC.365(93), will not facilitate global and consistent application of SOLAS regulation II-2/20-1; and

.2 MSC circular clarifying that only "pure car and truck carriers" should comply with SOLAS regulation II-2/20-1 should be developed as an interim measure, i.e. until the definition provided in SOLAS regulation II-2/3.56 is amended accordingly.

12.10 Following discussion, the Sub-Committee endorsed the view that only "pure car and truck carriers" should comply with SOLAS regulation II-2/20-1 and, therefore, the definition provided in SOLAS regulation II-2/3.56 should be amended accordingly as minor corrections that could be considered without requiring a new output. The Sub-Committee also agreed that an MSC circular clarifying that only "pure car and truck carriers" should comply with SOLAS regulation II-2/20-1, which should be developed as an interim solution. In this connection, the Sub-Committee, having endorsed the text of the draft unified interpretation of SOLAS regulation II-2/20-1, agreed to the draft MSC circular on Unified interpretations of SOLAS chapter II-2, as set out in annex 8, for submission to MSC 97, with a view to approval. The Sub-Committee also invited MSC 97 to consider the above decisions and, in particular, to confirm that the proposed amendment is a minor correction and that an MSC circular can be used as an interim measure pending entering into force the amendment to SOLAS regulation II-2/3.56.

Manually operated call points

12.11 The Sub-Committee, having considered document SSE 3/12/16 (IACS), discussing the location of manually operated call points required under SOLAS regulation II-2/7.7 and providing the draft revised IACS UI SC241 on manually operated call points, noted the following views expressed on this matter:

.1 some editorials should be further rectified; and

.2 the proposal is not totally in line with SOLAS requirements and, therefore, cannot be considered as an interpretation, but as an amendment.

12.12 Following discussion, the Sub-Committee decided to instruct the Working Group on Fire Protection to further consider document SSE 3/12/16 and advise the Sub-Committee on how best to proceed (see paragraph 12.13).

Instructions to the Working Group on Fire Protection

12.13 The Sub-Committee instructed the Working Group on Fire Protection, taking into account comments and decisions made in plenary, to:

.1 consider whether or not smoke and toxicity requirements apply to "corridors and stairway enclosures only" or to "all areas", on cargo ships, taking into account the information provided in document SSE 3/12/4; and advise the Sub-Committee on the need of any further amendments to MSC.1/Circ.1120 and/or the 2010 FTP Code;

.2 taking into account that the provisions of table 1 of annex 3 to the 2010 FTP Code are considered also applicable to passenger ships carrying not more than 36 passengers and advise the Sub-Committee on how best to proceed;

.3 further consider the proposal in paragraph 14.1 of document SSE 3/12/9, with a view to developing a draft unified interpretation; and

.4 if time permits, further consider document SSE 3/12/16 and advise the Sub-Committee on how best to proceed.

Report of the Working Group on Fire Protection

12.14 Having considered the part of the report of the Working Group on Fire Protection (SSE 3/WP.4) dealing with the agenda item, the Sub-Committee took action as outlined in paragraphs 12.15 to 12.20 below.

Smoke generation potential and toxicity of floor coverings in cargo ships and passenger ships carrying less than 36 passengers

12.15 In considering the inconsistencies between the 2010 FTP Code and MSC/Circ.1120 for smoke generation potential and toxicity for exposed floor coverings in cargo ships, the Sub-Committee noted that the group was unable to resolve the inconsistencies concerning the limitation of smoke and toxicity of floor coverings and finishes[6].

[6] Concerning the inconsistencies in the application of smoke and toxicity limitations to floor coverings and finishes, the group was evenly divided between two positions. First, that the clear meaning of SOLAS regulation II-2/6.2.1 is that paint, varnishes and other finishes must not produce excessive quantities of smoke and toxic products when used on all exposed surfaces. Second, that this regulation has been, and should be, properly interpreted as having the same scope as the low flame spread limitation of regulation II-2/5.3.2.4.2, which is limited to corridors and stairway enclosures only. The group recognized that these differing positions warrant counsel with respective Administrations and international organizations with the view to reconciling these inconsistencies (SSE 3/WP.4, paragraph 21).

12.16 With regard to the provisions of table 1 of annex 3 to the 2010 FTP Code, the Sub-Committee noted the group's view that the table should also be applicable to passenger ships carrying not more than 36 passengers and that the possible solution could be to delete the phrase "carrying not more than 36 passengers" from the table.

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

12.17 Regarding the requirements in paragraphs 2.3.3.2 and 2.5.2.3 of chapter 8 of the FSS Code for sizing of the sprinkler pumps and pressure tank, the Sub-Committee endorsed the draft unified interpretation of chapter 8 of the FSS Code and the *Revised guidelines for approval of sprinkler systems* (resolution A.800(19), as amended by resolution MSC.265(84)). Subsequently, the Sub-Committee also endorsed the draft MSC circular on Unified interpretation of chapter 8 of the FSS Code and the Revised guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12 (resolution A.800(19)), as amended by resolution MSC.265(84), as set out in annex 9, for submission to MSC 97 for approval.

Manually operated call points (SOLAS regulation II-2/7.7 and IACS UI SC241)

12.18 The Sub-Committee noted that, with regard to the location of manually operated call points required under SOLAS regulation II-2/7.7, the group was unable to endorse the modifications, as set out in the annex to document SSE 3/12/16, due to the following:

.1 the interpretation stating that a manually operated call point should be within 20 m of the exit of any individual space within a block of accommodation spaces, service spaces, or control stations impermissibly set forth a new requirement not grounded in any existing SOLAS regulations;

.2 SOLAS regulation II-2/7.7 regarding the understanding of the term "exits" has been inconsistently applied as evidenced by the variety of views and experiences expressed within the group;

.3 various understandings on the location of manually operated call points might potentially cause issues with PSC inspections; and

.4 further work may be warranted on issues such as, whether:

.1 the expression "each exit" needs clarification;

.2 service spaces and store rooms of lower fire risk, such as those containing no flammable materials, should be exempted from having a manually operated call point; and

.3 manually operated call points must be provided at each exit from a navigation bridge irrespective of whether or not a control panel is located in the navigation bridge; and

.4 a single manually operated call point may serve several exits to open decks in close proximity.

12.19 In connection to the above, the Sub-Committee requested Member Governments to communicate to their PSCO that, when conducting inspections, they recognize that a common view on the location of manually operated call points required under SOLAS regulation II-2/7.7 has not been agreed. In particular, the locations of manually operated call points at "each exit", for service spaces and store rooms of lower fire risk, such as those containing no flammable materials, and at each exit from a navigation bridge, irrespective of whether or not a control panel is located in the navigation bridge, are subject to the discretion of the flag Administration.

Progress made at this session

12.20 The Sub-Committee, having noted the progress made, endorsed the group's view that no correspondence group should be established at this session.

Clarification of SOLAS regulation II-2/13.4.2.3 relating to the means of escape from the steering gear space on cargo ships

12.21 Having considered document SSE 3/12 (IACS), discussing SOLAS regulation II-2/13.4.2 relating to the means of escape on cargo ships from machinery spaces other than those of category A and seeking clarification of the provisions with regard to the means of escape from the steering gear space, the Sub-Committee noted that there was not strong support for the IACS proposal, in particular a number of delegations expressed the view that the proposal is not totally in line with SOLAS requirements and, therefore, cannot be considered as an interpretation, but as an amendment.

12.22 Following discussion, the Sub-Committee, taking into account that IACS confirmed their intention to reconsider the unified interpretation, based on the concerns expperssed, agreed to take no actions.

Clarification on fire integrity of bulkheads between the wheelhouse and navigation lockers

12.23 In considering document SSE 3/12/1 (IACS), seeking clarification regarding the fire integrity of the division between the wheelhouse and a navigation locker that can only be accessed from the wheelhouse, with a view to facilitating the global and consistent application of tables 9.3, 9.5 and 9.7 of SOLAS regulation II-2/9, the Sub-Committee noted that a clear majority of those who spoke were of the opinion that a navigation locker that can only be accessed from the wheelhouse should not be considered as part of the control station with respect to the requirements in tables 9.3, 9.5 and 9.7 of SOLAS regulation II-2/9 and the division separating the wheelhouse and such a locker should have a "B-0" fire rating.

12.24 Following discussion, the Sub-Committee invited IACS, taking into account the comments made at this session, to prepare the draft unified interpretation for consideration at SSE 4.

Clarification of the minimum width of external escape routes

12.25 The Sub-Committee, having considered document SSE 3/12/2 (IACS), seeking clarification of the minimum width of external escape routes (including ladders and passageways) located on open decks on cargo ships, noted the following views expressed on this matter:

.1 there is no explicit width requirement in SOLAS Convention or the FSS Code for the "external portion" of the means of escape on the open decks of cargo ships, leading to the lifeboat and liferaft embarkation deck;

.2 In the context of the application of SOLAS regulation II-2/13.3.1, a 600 mm minimum width for "external" escape routes (including ladders and passageways) is adequate for providing a ready and safe means of escape for crew members on cargo ships; and

.3 the matter was again raised as a consequence of misapplication of the Procedures for Port State Control.

12.26 Follwing discussion, the Sub-Committee endorsed the view that neither SOLAS chapter II-2 nor the FSS Code contained specific requirements for the width of external portions of escape routes, as described in paragraph 5 of document SSE 3/12/2, and that the width of external portions of escape routes was a matter for the flag State. The Sub-Committee also endorsed the view that Port State Control officers should accept such arrangements, in accordance with the Procedures for Port State Control, and invited the III Sub-Committee to emphasize this fact to PSC MOUs (see also paragraphs 12.5.3 and 12.6).

Ventilation by fan coil units and internal circulation fans

12.27 In considering document SSE 3/12/3 (IACS), providing IACS UI SC148 on *Ventilation by fan coil units and internal circulation fans* revised in the context of the application of SOLAS regulations II-2/5.2.1.2, II-2/5.2.1.3 and II-2/7.9.3, the Sub-Committee noted the IACS view that fans that do not supply outside air to spaces such as cabins, cabinets, switchboards, etc. need not be capable of being stopped from outside the space being served, for all ship types.

12.28 The Sub-Committee also noted that IACS Members will uniformly implement the revised UI SC148 from 1 July 2016, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.29 Following discussion, the Sub-Committee, having endorsed the text of the draft unified interpretation of SOLAS regulations II-2/5 and II-2/7, agreed to the draft MSC circular on Unified interpretations of SOLAS chapter II-2, as set out in annex 8, for submission to MSC 97 with a view to approval.

Clarification on the application of SOLAS regulation II-2/9 to the spaces in the cargo area of tankers

12.30 The Sub-Committee, having considered document SSE 3/12/6 (IACS), seeking clarification on the application of tables 9.7 and 9.8 in SOLAS regulation II-2/9 to the spaces in the cargo area of tankers, with a view to facilitating the global and consistent implementation of these mandatory provisions, noted the following views expressed on this matter:

.1 while the fire integrity standards and categories for the cargo spaces on passenger ships and cargo ships are stipulated, there is no such provisions relating to the general areas in the cargo area of tankers, except cargo pump-rooms;

.2 all individual compartments, including those located in the cargo area, should be categorized as per SOLAS regulation II-2/9.2.4, and thus the fire integrity standards stipulated in the relevant regulations should be applied to the boundaries of each space; and

.3 SOLAS regulation II-2/9 is simply applicable to all boundaries of each space within the cargo area, i.e. all spaces located within the cargo area are considered to be a cargo space, i.e. category (8) in table 9.7.

12.31 Follwing discussion, the Sub-Committee endorsed that SOLAS regulation II-2/9.2.4 should apply to all the individual spaces within the cargo area of tankers. In this connection, the Sub-Committee invited IACS, taking into account the comments made at this session, to prepare the draft unified interpretation for consideration at SSE 4.

Hazardous area classification

12.32 In considering document SSE 3/12/7 (IACS), providing a copy of IACS UI SC274 relating to SOLAS regulation II-1/45.11 on hazardous area classification in respect of selection of electrical equipment, cables and wiring and positioning of openings and air intakes; and proposing that the Organization should forward annex 1 of UI SC274 to the International Electrotechnical Commission (IEC), the Sub-Committee noted the following views expressed on this matter:

.1 where the provisions of IEC 60092-502 (1999) standard and the requirements in SOLAS Conventions and other related IMO instruments are not consistent, the provisions in the IMO instruments are to take precedence; and

.2 the information in annex 1 to IACS UI SC274 should be taken into account by the IEC in the current review of IEC 60092-502 (1999), with the objective of the earliest practicable alignment of the provisions of this IEC standard and the requirements in SOLAS Convention and other related IMO instruments, such as the IBC and IGC Codes.

12.33 The Sub-Committee also noted that IACS Members will uniformly implement IACS UI SC274 from 1 January 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.34 Follwing discussion, the Sub-Committee, having noted the confirmation by the observer from the IEC that the information set out in UI SC 274 would be duly noted and appreciated, requested the Secretariat to liaise with the IEC, with a view to inviting them to take into account annex 1 to IACS UI SC274 when reviewing IEC 60092-502 (1999).

Fire pumps in ships designed to carry five or more tiers of containers on or above the weather deck

12.35 The Sub-Committee, having considered document SSE 3/12/10 (IACS), providing a copy of the revised IACS UI SC270 relating to the fire pumps in ships designed to carry five or more tiers of containers on or above the weather deck, noted the following views expressed on this matter:

.1 the revised UI addresses the diameter of the fire main and the minimum total capacity of the main fire pumps in cases where the mobile water monitors are supplied by the main fire pumps and the mobile water monitors, and the fixed arrangement of the water spray system are supplied by the main fire pumps;

.2 the intention of the SOLAS amendments adopted by resolution MSC.365(93) was only to state that the "180 m^3/h limit" does not apply on cargo ships designed to carry five or more tiers of containers on or above the weather deck; and

.3 the total capacity of the main fire pumps should be capable of supplying "four nozzles of water plus the mobile water monitors" or "four nozzles of water plus the water spray system", whichever is greater.

12.36 The Sub-Committee also noted that the revised UI SC270 will be applied by IACS Members on ships contracted for construction on or after 1 January 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.37 Following discussion, the Sub-Committee, having noted that the proposed interpretation has not been unanimously supported by Member Governments, decided to only note the information in paragraph 12.36 above and take no further action.

Arrangements for remotely located liferafts

12.38 In considering document SSE 3/12/11 (IACS), providing a copy of IACS UI SC213 (Rev.3) clarifying the specifications for self-contained battery powered lights that are used as an adequate means of illumination for the embarkation station and stowage location of remotely located survival craft, the Sub-Committee noted the information that, with regard to paragraph 6 of the revised IACS UI SC213, the associated draft amendment to SOLAS regulation III/11.7 has already been proposed by Liberia, the Marshall Islands and IACS for consideration at MSC 96 (MSC 96/24/6).

12.39 The Sub-Committee also noted that the revised UI SC213 will be applied by IACS Members on ships contracted for construction on or after 1 January 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.40 Following discussion, the Sub-Committee endorsed the text of the new paragraph 2.4 to be inserted in the unified interpretation of SOLAS regulation III/31.1.4, set out in the annex to MSC.1/Circ.1490, and agreed to the draft amendments to MSC.1/Circ.1490, as set out in annex 10, for submission to MSC 97 with a view to approval as MSC.1/Circ.1490/Rev.1. The Sub-Committee also endorsed that the text of paragraph 6 of the revised IACS UI SC213 should be kept in square brackets, pending the decision by MSC 96.

Inert gas supply for double-hull spaces

12.41 The Sub-Committee, having considered document SSE 3/12/12 (IACS), providing a copy of IACS UI SC272 that defines the term "double-hull space" for the purposes of fitting suitable connections for the supply of inert gas according to the provisions of SOLAS regulation II-2/4.5.5, noted the following views expressed on this matter:

.1 the term "double-hull space" is not defined within SOLAS;

.2 Bearing in mind that SOLAS regulation II-2/4.5.7.3 requires a "fixed hydrocarbon gas detection system … in all ballast tanks and void spaces of double-hull and double-bottom spaces adjacent to the cargo tanks, including the forepeak tank and any other tanks and spaces under the bulkhead deck adjacent to cargo tanks" except where such spaces are "provided with constant operative inerting systems", it may be concluded that there exists a link between fixed hydrocarbon gas detection and constant operative inerting systems;

.3 double-hull spaces required to be fitted with suitable connections for the supply of inert gas, as referred to in SOLAS regulation II-2/4.5.5.1.4, are the same spaces as those referred to in SOLAS regulation II-2/4.5.7.3; and

.4 the interpretation should be modified to read as follows:

"Double-hull spaces required to be fitted with suitable connections for the supply of inert gas as per SOLAS regulation II-2/4.5.5.1.4.1 are all ballast tanks and void spaces of double-hull and double-bottom spaces adjacent to the cargo tanks, including the forepeak tank and any other tanks and spaces under the bulkhead deck adjacent to cargo tanks, except cargo-pump rooms and ballast pump-rooms."

12.42 The Sub-Committee also noted that the new UI will be applied by IACS Members on ships contracted for construction on or after 1 January 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.43 Following discussion, the Sub-Committee, having endorsed the modification proposed in paragraph 12.41.4 above, agreed to the draft MSC circular on Unified interpretations of SOLAS chapter II-2, as set out in annex 8, for submission to MSC 97 with a view to approval.

Sources of ignition on board ships carrying dangerous goods

12.44 In considering document SSE 3/12/13 (IACS), providing the latest version of IACS UI SC79 relating to SOLAS regulation II-2/19.3.2 on sources of ignition on board ships carrying dangerous goods, the Sub-Committee noted the following views expressed on this matter:

.1 while the IEC requirement (IEC 60092-506 clause 7) is suitable to prevent the spread of an explosive gas atmosphere through openings between spaces, it cannot be regarded as suitable to prevent a flammable liquid leaking from a source of release (actually the overpressure is of only 2.5 mm water column), considered an alternative solution (in place of maintaining an overpressure of 25 Pa with an overpressure loss alarm), based on the current industry practice, of ventilating the relevant space(s) at a rate of at least six supply air changes per hour, together with a failure alarm for the ventilation system and redundancy of the supply fan;

.2 enclosed spaces containing a source of release of flammable liquid (pipe tunnels, bilge pump-rooms, etc.) are to be classified as extended hazardous areas (comparable with zone 2), unless these spaces are continuously mechanically ventilated with a capacity of at least six air changes per hour; and

.3 safety of the installation is to be maintained in case of a failure of the ventilation system.

12.45 The Sub-Committee also noted that the revised UI will be applied by IACS Members from 1 January 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.46 Following discussion, the Sub-Committee, having endorsed the draft unified interpretation of SOLAS regulation II-2/19.3.2, agreed to the draft MSC circular on Unified interpretations of SOLAS chapter II-2, as set out in annex 8, for submission to MSC 97 with a view to approval.

Implementation of the requirements relating to lifeboat release and retrieval systems

12.47 In considering document SSE 3/12/17 (IACS), providing a revised version of IACS UI SC267 regarding the implementation of the requirements relating to lifeboat release and retrieval systems in paragraph 4.4.7.6 of the LSA Code, as amended by resolution MSC.320(89), the Sub-Committee noted the following views and comments expressed on this matter:

.1 SSE 2, having considered IACS UI SC267, agreed to the draft unified interpretation of paragraph 4.4.7.6 of the LSA Code, as amended by resolution MSC.320 (89), and the associated draft MSC circular for submission to MSC 96 for approval (SSE 2/20, paragraph 11.24);

.2 inner cables made of austenitic stainless steel 304 are not subject to paragraph 4.4.7.6 of the LSA Code, provided that they are covered with a sheath and installed inside the lifeboat; and

.3 three Member Governments express the view that the information provided in document SSE 3/INF.4 (New Zealand) and, in particular the conclusions drawn by the Transport Accident Investigation Commission (TAIC), should be considered safety related; and asked whether the recognized organizations working on behalf of the Administrations in that area had any policy in place to safeguard such occurrences where plastic sheathed wire was installed on board.

12.48 The Sub-Committee also noted that the revised IACS UI SC267 will be uniformly implemented by IACS Members for approvals issued in accordance with SOLAS regulation III/34 and the LSA Code no later than 1 July 2016, unless provided with written instruction to apply a different interpretation by an Administration on whose behalf they are authorized to act as a recognized organization.

12.49 Following discussion, the Sub-Committee endorsed the addition of the following new sentence to the end of the interpretation of paragraph 4.4.7.6.9 of the LSA Code:

"For operating cables covered with sheath and installed inside the lifeboat, inner cables made of austenitic stainless steels 304 are acceptable without the corrosion test above."

and invited MSC 96 to agree with the above revision, together with the draft MSC circular on Unified interpretation of paragraph 4.4.7.6 of the LSA Code, as amended by resolution MSC.320(89), as set out in annex 8 to document SSE 2/20, and take action as appropriate.

Suitable number of spare air cylinders

12.50 Having considered document SSE 3/12/18 (IACS), providing a new IACS UI SC275 relating to SOLAS regulation II-2/15.2.2.6, with regard to the term "suitable number of spare cylinders", the Sub-Committee noted the following views expressed on this matter:

.1 the spare cylinders required by SOLAS regulation II-2/15.2.2.6 should be provided for the breathing apparatus required by SOLAS regulations II-2/10.10.2 and II-2/18.5.1.6;

.2 the breathing apparatus required by SOLAS regulation II-2/19 and the other codes (i.e. the IMSBC, IGC and IBC Codes) would not be subject to SOLAS regulation II-2/15.2.2.6;

.3 SOLAS regulation II-2/15.2.2.6 should be applied to all ships regardless of their construction date; and

.4 the following additional text should be added to the first paragraph of the interpretation:

", unless additional spare cylinders are required by the shipboard safety management system (SMS)."

12.51 The Sub-Committee also noted that the new UI will be uniformly implemented by IACS Members from 1 January 2017 on all ships, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

12.52 Following discussion, the Sub-Committee, having endorsed the text of the draft unified interpretation of SOLAS regulation II-2/15.2.2.6 modified as per paragraph 12.50.4 above, agreed to the draft MSC circular on Unified interpretations of SOLAS II-2, as set out in annex 8, for submission to MSC 97 with a view to approval.

13 BIENNIAL STATUS REPORT AND PROVISIONAL AGENDA FOR SSE 4

Outcome of MSC 95

13.1 In considering matters related to the biennial agenda and provisional agenda, the Sub-Committee recalled that MSC 95 agreed to include, in the 2016-2017 biennial agenda of the Sub-Committee and the provisional agenda of SSE 3, the following two new outputs on:

.1 "Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board", with a target completion year of 2017; and

.2 "Revision of SOLAS regulations II-1/13 and II-1/13-1 and other related regulations for new ships", with a target completion year of 2017, in association with the SDC Sub-Committee as and when requested by the SSE Sub-Committee.

Outcome of A 29

13.2 The Sub-Committee also recalled that the Assembly, at its twenty-ninth session, approved the *High-level Action Plan of the Organization and priorities for the 2016-2017 biennium* (resolution A.1098(29)).

Biennial status report

13.3 Taking into account the progress made at the session, the Sub-Committee prepared the biennial status report (SSE 3/WP.2, annex 1), as set out in annex 11, for consideration by MSC 96.

Proposed provisional agenda for SSE 4

13.4 Taking into account the progress made at the session, the Sub-Committee prepared the proposed provisional agenda for SSE 4 (SSE 3/WP.2, annex 2), as set out in annex 12, for consideration by MSC 96.

Correspondence groups established at the session

13.5 The Sub-Committee established correspondence groups on the following subjects, due to report to SSE 4:

.1 life-saving appliances (LSA) (see paragraph 3.16);

.2 onboard lifting appliances and winches (see paragraph 8.17);

.3 dynamic positioning (DP) systems (see paragraph 9.6); and

.4 anti-crushing protection to watertight doors (see paragraph 11.5).

Arrangements for the next session

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

.1 life-saving appliances (LSA) (agenda items 3 and 4);[7]

.2 review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1 (agenda item 5);

.3 onboard lifting appliances and winches (agenda item 6);

.4 dynamic positioning (DP) systems (agenda item 7); and

.5 fire protection (agenda items 8),

whereby the Chairman, taking into account the submissions received on the respective subjects, would advise the Sub-Committee before SSE 4 on the final selection of such groups.

Urgent matters to be considered by MSC 96

13.7 The Sub-Committee recalled that MSC 95, having noted that owing to the close proximity of SSE 3 to MSC 96 only urgent matters emanating from SSE 3 would be considered by MSC 96, in accordance with the Committees' Guidelines (MSC-MEPC.1/Circ.4/Rev.4), agreed that the following issues emanating from SSE 3 would be considered by MSC 96 as urgent matters (MSC 95/22, paragraph 19.34):

.1 safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III*;

.2 draft Unified Interpretation of fire pumps in ships designed to carry five or more tiers of containers on or above the weather deck; and

.3 making the provisions of MSC.1/Circ.1206/Rev.1 mandatory,

with the remaining issues being considered by MSC 97.

[7] Refer to annex 12.

13.8 In addition to the above urgent matters, the Sub-Committee invited MSC 96 to agree with the revision to the draft MSC circular on Unified interpretation of paragraph 4.4.7.6 of the LSA Code, as amended by resolution MSC.320(89) (see paragraph 12.49).

Urgent matters to be considered by MSC 98

13.9 The Sub-Committee, having noted that SSE 4 will take place more than 10 weeks before MSC 98, agreed to submit a full report for consideration at MSC 98, instead of submitting only urgent matters emanating from SSE 4.

Date of the next session

13.10 The Sub-Committee noted that the fourth session of the Sub-Committee has been tentatively scheduled to take place from 20 to 24 March 2017.

14 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2017

14.1 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. U. Senturk (Turkey) as Vice-Chairman, both for 2017.

15 ANY OTHER BUSINESS

General

15.1 The Sub-Committee agreed firstly to consider document SSE 3/15/3 (Liberia et al.) proposing draft amendments to the 1994 and 2000 HSC Codes, with a view to finalizing the terms of reference for the Working Group on Life-Saving Appliances (LSA) established under agenda item 3 (Safety objectives and functional requirements of the *Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III*), and then to deal with the remaining issues in the following order:

.1 minor editorial corrections and possible omissions;

.2 additional performance and/or test standards in support of the implementation of the Polar Code;

.3 inconsistency concerning the load to be applied to winches and winch brakes;

.4 thermal protective test for insulated immersion suits;

.5 draft amendments to MSC.1/Circ.1392 regarding the replacement of non-corrosion resistant components fitted outside a lifeboat;

.6 information on failure of plastic sheathed LSA lifting sling; and

.7 information on test laboratories recognized by Administrations and availability of Halons.

Amendments to the 1994 and 2000 HSC Codes

15.2 The Sub-Committee recalled that MSC 94, having considered document MSC 94/8/1 (IACS) on application of paragraphs 8.10.1.4 to 8.10.1.6 of the 2000 HSC Code, instructed SSE 2 to prepare draft amendments to both the 1994 and 2000 HSC Codes for further consideration at MSC 95.

15.3 It was also recalled by the Sub-Committee that MSC 95, having noted that no action had been taken at SSE 2 on preparing amendments to the 1994 and 2000 HSC Code due to the withdrawal of the base proposal (SSE 2/19/5), invited interested Member Governments and international organizations to submit comments and proposals to SSE 3 (MSC 95/22, paragraph 12.14).

15.4 In considering document SSE 3/15/3, proposing the text to provide clarification regarding the application of paragraphs 8.10.1.4 to 8.10.1.6 of the 1994 and 2000 HSC Codes concerning the exemption from the carriage of rescue boats for high-speed craft of less than 20 m and 30 m in length, respectively, the Sub-Committee confirmed that high-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code) in length may be exempted from carrying a rescue boat, provided the requirements of paragraphs 8.10.1.5.1 to 8.10.1.5.3 are fulfilled, and provided a person can be rescued from the water in a horizontal or near-horizontal body position (MSC.1/Circ.1185/Rev.1).

15.5 Following discussion, the Sub-Committee endorsed the proposed draft amendments to the 1994 and 2000 HSC Codes, as set out in annex 13, for submission to MSC 97 with a view to approval and subsequent adoption.

Establishment of a Drafting Group on Amendments to the 1994 and 2000 HSC Codes

15.6 Taking into account paragraphs 3.2.1.3.16.2, 3.2.1.3.17 and 3.1.2.3.19 of the *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500), the Sub-Committee agreed to establish a Drafting Group on Amendments to the 1994 and 2000 HSC Codes and instructed it to complete part III of the check/monitoring sheet and the records for regulatory development given in annexes 2 and 3 to the Guidance, respectively, for submission to MSC 97 together with the proposed draft amendments to the 1994 and 2000 HSC Codes.

Report of the drafting group

15.7 Having considered the report of the Drafting Group on Amendments to the 1994 and 2000 HSC Codes (SSE 3/WP.6) providing the completed part III of the check/monitoring sheet and the records for regulatory development given in annexes 2 and 3 to the *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500), the Sub-Committee endorsed the check/monitoring sheet and records completed by the group, as set out in appendixes 1 and 2 to annex 13.

Early implementation of the amendments to the 1994 and 2000 HSC Codes

15.8 The Sub-Committee, taking into account the four-year cycle of entering into force the amendments to mandatory instruments, instructed the Secretariat to prepare a draft MSC circular on *Early implementation of the amendments to the 1994 and 2000 HSC Codes*, as set out in annex 14, for further consideration at MSC 97, with a view to approval at MSC 98, in conjunction with the adoption of draft amendments to the 1994 and 2000 HSC Codes.

Minor editorial corrections and possible omissions

Minor editorial corrections of MSC.1/Circ.1486

15.9 The Sub-Committee, having considered document SSE 3/15 (Secretariat), informing of the errors in the annex to MSC.1/Circ.1486 and proposing that these errors be treated as editorials and a corrigendum to MSC.1/Circ.1486 be issued, instructed the Secretariat to issue a corrigendum to MSC.1/Circ.1486 in due course.

Minor editorial correction of the footnote to SOLAS regulation II-2/23.4

15.10 The Sub-Committee had the following documents for consideration:

.1 SSE 3/15/1 (Secretariat), proposing to update the existing text of the footnote to SOLAS regulation II-2/23.4 by replacing a general reference to "guidelines to be developed by the Organization" with the reference to MSC/Circ.982 and SN.1/Circ.265; and

.2 SSE 3/15/8 (CLIA), advising that, in the context of the layout and ergonomic design of safety centres on passenger ships, neither MSC/Circ.982 nor SN.1/Circ.265 are appropriate references in relation to SOLAS regulation II-1/23.4.

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

.1 further consideration may be needed in order to assess whether there is still a need for such guidelines; and

.2 document NAV 55/12, including its annex, might still contain some helpful information but would need to be updated prior to any further consideration.

15.12 Following discussion, the Sub-Committee endorsed the view that neither MSC/Circ.982 nor SN.1/Circ.265 were appropriate references in relation to SOLAS regulation II-1/23.4 and decided to keep the existing footnote to SOLAS regulation II-2/23.4.

Possible omissions in paragraphs 5.1.4 and 5.1.5 of appendix 2 to the annex to resolution A.800(19), as amended by resolution MSC.265(84)

15.13 The Sub-Committee, having considered document SSE 3/15/2 (Secretariat), addressing two possible omissions in paragraphs 5.1.4 and 5.1.5 of appendix 2 to the annex to resolution A.800(19), as amended by resolution MSC.265(84), noted the view that in paragraphs 5.1.4 and 5.1.5, as amended by MSC.265(84), the reference to "part 3 of the FTP Code" is an omission and that both references, i.e. to "part 3 of the FTP Code" and to "IMO resolution A.653(16)", should be replaced with "part 5 of annex 1 to the Fire Test Procedures Code", for the reason that the up-to-date fire test procedures for surface flammability should be referred to.

15.14 Following discussion, the Sub-Committee endorsed the above view and instructed the Secretariat to update the references in paragraphs 5.1.4 and 5.1.5 of appendix 2 to the annex of resolution A.800(19), as amended by resolution MSC.265(84), in due course.

Additional performance and/or test standards in support of the implementation of the Polar Code

15.15 In considering document SSE 3/15/4 (Argentina et al.), discussing the need for additional performance and/or test standards in support of the implementation of the Polar Code and suggesting that there is a need to review the LSA Code, in order to ensure that the relevant requirements of the Polar Code will be consistently and globally implemented, the Sub-Committee noted the following views expressed on this matter:

.1 MSC 97 should be advised that the LSA Code needs to be further reviewed to identify and develop necessary amendments, with a view to meeting the additional demands that the Polar Code put on life-saving appliances and arrangements;

.2 any amendments should be additional performance and/or test criteria for the equipment and systems on board ships to which a Polar Ship Certificate is issued only; and

.3 for equipment and systems used on ships operating outside polar waters, the test regimes should remain unchanged.

15.16 Following discussion, the Sub-Committee endorsed the view that additional performance and test standards for the equipment and systems on board ships operating in polar waters should be developed. In this connection, the Sub-Committee invited MSC 97 to endorse the above decision and take action as appropriate. The Sub-Committee also invited interested Member Governments and international organizations to submit comments and proposals (the scope of work, type of equipment, etc.) for consideration at MSC 97.

Inconsistency concerning the load to be applied to winches and winch brakes

15.17 Having considered document SSE 3/15/5 (IACS), discussing different winch and brake test loads, set out in parts 1 and 2 of resolution MSC.81(70), and seeking comments from the Sub-Committee and subsequent co-sponsorship of a document proposing what is considered to be a simple correction and alignment of the IMO mandatory texts, to be submitted to MSC 97, the Sub-Committee noted the following views expressed on this matter:

.1 since only winch brakes are designed to have sufficient strength and be prototype tested to withstand a static proof load of not less than 1.5 times the maximum working load, the text "except the winch" in paragraph 6.1.1 of part 2 of the annex to resolution MSC.81(70) should be read as excluding the winch brakes from the test with a static load of 2.2 times the maximum working load; and

.2 a document, proposing a simple correction and alignment of the IMO mandatory texts, should be submitted to MSC 97 in accordance with the understanding reflected in the summary of decisions taken at C/ES.27 (C/ES.27/D, paragraph 3.2(vi)), that minor corrections/issues could continue to be considered by the committees under the agenda item "Any other business" without requiring a new unplanned output.

15.18 Following discussion, the Sub-Committee endorsed the following draft amendments:[8]

.1 Paragraph 6.1.1.5 of the LSA Code should be amended to read as follows:

"The launching appliance and its attachments other than winch ~~brakes~~ shall be of sufficient strength to withstand a factory static proof load test of not less than 2.2 times the maximum working load."

.2 First sentence of paragraph 8.1.1 of part 1 of the annex to resolution MSC.81(70) should be amended to read as follows:

"For lifeboats other than free-fall lifeboats, davits and launching appliances, except the winch ~~brakes~~, should be subjected to a static proof load of 2.2 times their maximum working load."

.3 paragraph 6.1.1.6 of the LSA Code should be amended to read as follows:

"Structural members and all blocks, falls, padeyes, links, fastenings and all other fittings used in connection with launching equipment shall be designed with a factor of safety on the basis of the maximum working load assigned and the ultimate strengths of the materials used for construction. A minimum factor of safety of 4.5 shall be applied to all structural members including winch structural components and a minimum factor of safety of 6 shall be applied to falls, suspension chains, links and blocks."

15.19 The Sub-Committee also endorsed the view that the amendments set out in paragraphs 15.18.1 to 15.18.3 should be treated as minor corrections that could be considered without requiring a new output. In this connection, the Sub-Committee invited MSC 97 to consider the above decision and take action as appropriate.

Thermal protective test for insulated immersion suits

15.20 In considering document SSE 3/15/6 (China), proposing to use the measurement of thermal resistance value as an equivalent method to evaluate thermal protective performance for insulated immersion suits, based on the experiment study, the Sub-Committee noted the following views and comments expressed on this matter:

.1 SSE 1 agreed to postpone further discussion on this output and remove it from the active agenda pending the completion of the ongoing practical work by Member Governments; and

.2 the number of delegations raised concerns on sufficiency of the proposed method for the purpose of final approval (e.g. effect of suit leakage has not been taken into account) and expressed a view that further research should be carried out.

15.21 Following discussion, the Sub-Committee agreed to take no action at this stage, i.e. to postpone further discussion on this output pending the completion of the ongoing practical work by Member Governments.

[8] Tracked changes are created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

Replacement of non-corrosion resistant components fitted outside a lifeboat

15.22 Having considered document SSE 3/15/7 (IACS), proposing amendments to paragraph 21 of the *Guidelines for evaluation and replacement of lifeboat release and retrieval systems*, as set out in the annex to MSC.1/Circ.1392, with a view to including a method of assessment for backing plates and bolts to confirm that they are in "good condition", the Sub-Committee noted that a number of delegations expressed concerns regarding the clarity of the proposed method, in particular on use of magnetic particle inspection (MPI).

15.23 Following discussion, the Sub-Committee invited IACS to note the comments made at this session and submit the revised proposal for consideration at SSE 4.

Failure of plastic sheathed LSA lifting sling

15.24 The Sub-Committee noted the document SSE 3/INF.4 (New Zealand), informing of the recommendations made by New Zealand's Transport Accident Investigation Commission in relation to the incident of the **Da Dan Xia** (IMO number 9451290) (see also paragraph 12.47).

15.25 In this connection, delegation of Germany, supported by two delegations, expressed the view that the information provided in document SSE 3/INF.4 and, in particular, the conclusions drawn by the Transport Accident Investigation Commission (TAIC), should be considered safety related; and asked whether the recognized organizations working on behalf of the Administrations in that area had any policy in place to safeguard such occurrences where plastic sheathed wire was installed on board.

Test laboratories recognized by Administrations and availability of Halons

15.26 The Sub-Committee recalled that SSE 1 decided to request the Secretariat to issue all future SSE circulars and update them only as and when necessary in lieu of issuing them annually (i.e. as revisions to the base circulars).

15.27 The Sub-Committee noted the following information provided by Secretariat on the status of the aforementioned SSE circulars:

.1 the SSE circular on *Test laboratories recognized by Administrations* (SSE.1/Circ.1) was published on 11 June 2014 and the revised lists of recognized laboratories (i.e. SSE.1/Circ.1/Rev.1 and SSE.1/Circ.1/Rev.2) were published on 27 October 2014 and 29 June 2015; and

.2 the SSE circular on *Halon banking and reception facilities* (SSE.1/Circ.2) was published on 27 October 2014.

Compatibility of immersion suits and buoyancy aids

15.28 The Sub-Committee had no time to discuss the report on the incident of the **Swanland**, as well as its analysis and comments relating to the issue of the compatibility of immersion suits and buoyancy aids. The Chairman, having noted that no comments or proposals had been submitted for consideration at SSE 3 and bearing in mind that the LSA Working Group had been heavy work loaded with matters under agenda items 3 to 5, decided not to open the discussion on this issue.

Expressions of appreciation

15.29 The Sub-Committee expressed appreciation to the following delegates and members of the Secretariat, who had recently relinquished their duties, retired or been transferred to other duties, or were about to do so, for their invaluable contribution to its work and wished them a long and happy retirement or, as the case might be, every success in their new duties:

- Captain Mario Rubén Farinón (Argentina) (on transfer)
- Mr. Sylvain Lachance (Canada) (on retirement)
- Mr. Guangling Li (China) (on return home)
- Mrs. Anna Wypych-Namiotko (Poland) (on transfer)
- Mr. Chris van Hooren (SYBAss) (on retirement)
- Mr. Andrew Winbow (IMO) (on retirement)

16 ACTION REQUESTED OF THE COMMITTEE

16.1 The Maritime Safety Committee, at its ninety-sixth session, is invited to:

.1 endorse the draft functional requirements of SOLAS chapter III, so that they could be taken into account by the Correspondence Group on the Development of Functional Requirements for SOLAS chapter III (paragraph 3.13 and annex 1);

.2 consider the preliminary information on the experience gained during the implementation of MSC.1/Circ.1394/Rev.1, taking into account that more experience will be gained and collected for submission to the Committee and take action as appropriate (paragraph 3.15);

.3 adopt draft amendments to SOLAS regulations III/3 and III/20, taking into account the decision of the Sub-Committee to not apply MSC.1/Circ.1500 as it would delay the adoption by one year (paragraphs 4.13 and 4.17; and annex 2);

.4 adopt the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, in conjunction with the adoption of the draft associated SOLAS amendments (paragraph 4.19 and annex 3);

.5 agree with the Sub-Committee's decision that a detailed review of the draft MSC circular on *Guidelines on safety during abandon ship drills using lifeboats* and the draft amendments to MSC.1/Circ.1205 is needed in order to capture possible inconsistencies emanating from the revision of the draft MSC resolution on *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* (paragraph 4.20);

.6 note that the Sub-Committee took no action on IACS UI SC270 relating to fire pumps in ships designed to carry five or more tiers of containers on or above the weather deck (paragraphs 12.35 to 12.37);

.7 agree to the addition of a new sentence to the end of the interpretation of paragraph 4.4.7.6.9 of the LSA Code, together with the draft MSC circular on Unified interpretation of paragraph 4.4.7.6 of the LSA Code, as amended by resolution MSC.320(89), as set out in annex 8 to document SSE 2/20, and take action as appropriate (paragraphs 12.49 and 13.8);

.8 approve the biennial status report of the Sub-Committee for the 2016-2017 biennium (paragraph 13.3 and annex 11); and

.9 approve the provisional agenda for SSE 4 (paragraph 13.4 and annex 12).

16.2 The Maritime Safety Committee, at its ninety- seventh session, is invited to:

.1 approve draft MSC circular on Amendments to the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002) (paragraph 6.8 and annex 4);

.2 approve draft amendments to SOLAS regulation II-2/9.4.1.3 with a view to subsequent adoption, taking into account the check/monitoring sheet and records for regulatory development prepared by the Sub-Committee (paragraph 7.8 and annex 5);

.3 approve the draft MSC circular on *Shipboard escape route signs and emergency equipment markings*, taking into account the way forward agreed by the Sub-Committee (paragraphs 10.5 to 10.7 and annex 6);

.4 approve the draft MSC circular on Unified interpretation of chapter 9 of the FSS Code (paragraph 12.4 and annex 7);

.5 approve the draft MSC circular on Unified interpretations of SOLAS chapter II-2 (paragraphs 12.6, 12.10, 12.29, 12.43, 12.46 and 12.52; and annex 8);

.6 consider the Sub-Committee's decisions that only "pure car and truck carriers" need to comply with SOLAS regulation II-2/20-1 and that the definition provided in SOLAS regulation II-2/3.56 should be amended accordingly; and to confirm that (paragraph 12.10):

.1 the proposed amendment to SOLAS regulation II-2/3.56 can be treated as a minor correction without requiring a new output; and

.2 an MSC circular can be used as an interim measure pending entering into force the amendment to SOLAS regulation II-2/3.56;

.7 approve the MSC circular on Unified interpretation of chapter 8 of the FSS Code and the *Revised guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12* (resolution A.800(19)), as amended by resolution MSC.265(84) (paragraph 12.17 and annex 9);

.8 approve draft amendments to MSC.1/Circ.1490 (as MSC.1/Circ.1490/Rev.1), taking into account that the text of paragraph 6 of the annex is kept in square brackets pending the decision by MSC 96 on the draft amendment to SOLAS regulation III/11.7 (MSC 96/24/6) (paragraphs 12.38 and 12.40; and annex 10);

.9 consider the Sub-Committee's recommendation that the full report of SSE 4 should be submitted to MSC 98 for consideration, instead of submitting only urgent matters emanating from SSE 4, and take action as appropriate (paragraph 13.9);

.10 approve draft amendments to the 1994 and 2000 HSC Codes with a view to subsequent adoption, taking into account the check/monitoring sheet and records for regulatory development prepared by the Sub-Committee (paragraphs 15.5 and 15.7; and annex 13);

.11 consider the draft MSC circular on *Early implementation of the amendments to the 1994 and 2000 HSC Codes*, with a view to approval at MSC 98, in conjunction with the adoption of draft amendments to the 1994 and 2000 HSC Codes (paragraph 15.8 and annex 14);

.12 endorse the Sub-Committee's decision that additional performance and test standards for the equipment and systems on board ships operating in polar waters should be developed and take action as appropriate (paragraph 15.16);

.13 consider the draft amendments to paragraphs 6.1.1.5 and 6.1.1.6 of the LSA Code and paragraph 8.1.1 of part 1 of the annex to resolution MSC.81(70), taking into account the Sub-Committee's view that the proposed amendments can be treated as minor corrections without requiring a new output, and take action as appropriate (paragraphs 15.18 and 15.19); and

.14 note the Sub-Committee's decision in regard to the report of the incident of the **Swanland** (paragraph 15.28).

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ANNEX 1

DRAFT FUNCTIONAL REQUIREMENTS OF SOLAS CHAPTER III

1 Provide readily available information to all persons on board and their assignment to life-saving equipment

2 Ensure readily available information is provided to support decisions during an emergency

3 Provide means of communications suitable for guiding ships and aircraft to the location of survivors

4 Provide active means for alerting all persons on board as to the emergency

5 Provide means for safe abandonment for all persons from ship in order to reach the survival place

6 Provide for the [health/survivability] of all persons after abandonment

7 Provide means to enable survival in water of all persons on board

8 Provide nutrition for all persons from the abandoned vessel

9 Provide a safe environment other than the ship to protect all persons

10 Provide ready access to survival systems for all persons

11 All life-saving appliances shall be in a state of readiness

12 Provide active means of detection: electronic, visual and audible

13 Provide passive means of detection: electronic and visual

14 Provide active means for visual and audible detection of persons in the water

15 Provide passive means of visual detection of persons in the water

16 Include provisions for pickup and transferring of persons without hazardous exposure to all persons

17 Provide facilities to rescue persons from the water

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ANNEX 2

DRAFT AMENDMENTS TO SOLAS REGULATIONS III/3 AND III/20

DRAFT AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

CHAPTER III
LIFE-SAVING APPLIANCES AND ARRANGEMENTS

PART A
GENERAL

Regulation 3 – Definitions

1 The following new paragraph 25 is added after the existing paragraph 24:

"25 *Requirements for maintenance, thorough examination, operational testing, overhaul and repair* means the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear, adopted by the Maritime Safety Committee of the Organization by resolution MSC.[…(…)], as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I."

PART B
REQUIREMENTS FOR SHIPS AND LIFE-SAVING APPLIANCES

Regulation 20 – Operational readiness, maintenance and inspections

2 The existing paragraph 3.1 is replaced with the following text:

"3.1 Maintenance, testing and inspections of life-saving appliances shall be carried out in a manner having due regard to ensuring reliability of such appliances."

3 The existing paragraph 11 is replaced with the following text:

"**11 Maintenance, thorough examination, operational testing, overhaul and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear**

11.1 Launching appliances shall be:

.1 subject to a thorough examination at the annual surveys required by regulations I/7 or I/8, as applicable; and

.2 upon completion of the examination referred to in .1 subjected to a dynamic test of the winch brake at maximum lowering speed. The load to be applied shall be the mass of the survival craft or rescue boat without persons on board, except that, at intervals of at least once every five years, the test shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment.

11.2 Lifeboat and rescue boat release gear, including fast rescue boat release gear and free-fall lifeboat release systems, shall be:

.1 subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8;

.2 in case of on-load release gear operationally tested under a load of 1.1 times the total mass of the boat when loaded with its full complement of persons and equipment whenever the release gear is overhauled. Such overhauling and operational test shall be carried out at least once every five years;* and

.3 notwithstanding subparagraph .2 above, the operational testing of free-fall lifeboat release systems shall be performed either by free fall launch with only the operating crew on board or by a test without launching the lifeboat carried out based on Requirements for maintenance, thorough examination, operational testing, overhaul and repair.

11.3 Davit-launched liferaft automatic release hooks shall be:

.1 subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8; and

.2 operationally tested under a load of 1.1 times the total mass of the liferaft when loaded with its full complement of persons and equipment whenever the automatic release hook is overhauled. Such over-hauling and operational test shall be carried out at least once every five years.*

11.4 Lifeboats and rescue boats, including fast rescue boats, shall be subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8.

11.5 The thorough examination, operational testing and overhaul required by paragraphs 11.1 to 11.4 and the maintenance and repair of equipment specified in paragraphs 11.1 to 11.4 shall be carried out in accordance with the Requirements for maintenance, thorough examination, operational testing, overhaul and repair, and the instructions for onboard maintenance as required by regulation 36."

* Refer to Recommendation on testing of life-saving appliances (resolution A.689(17)), as amended. For life-saving appliances installed on board on or after 1 July 1999, refer to *Revised Recommendations on testing of life-saving appliances* (resolution MSC.81(70)), as amended.

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ANNEX 3

DRAFT MSC RESOLUTION

REQUIREMENTS FOR MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS AND RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO the *Measures to prevent accidents with lifeboats* (MSC.1/Circ.1206/Rev.1) and the *Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear* (MSC.1/Circ.1277) approved by it,

RECOGNIZING the need to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats (including free-fall lifeboats) and rescue boats (including fast rescue boats), launching appliances and release gear,

NOTING that, by resolution MSC.[…(…)], it adopted amendments to regulations III/3 and III/20 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended (hereinafter referred to as "the Convention"), concerning maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear,

NOTING ALSO that the aforementioned regulation III/20 of the Convention provides that the maintenance, thorough examination, operational testing, overhaul and repair shall be carried out in accordance with the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear (hereinafter referred to as "the Requirements"),

HAVING CONSIDERED, at its [ninety-sixth] session, the recommendation made by the Sub-Committee on Ship Systems and Equipment, at its [third] session,

1 ADOPTS the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear, the text of which is set out in the annex to the present resolution;

2 INVITES Contracting Governments to the Convention to note that the Requirements will take effect on […] upon entry into force of the associated amendments to regulations III/3 and III/20 of the Convention;

3 ALSO INVITES Contracting Governments to the Convention to take measures they consider appropriate to ensure that national manufacturers of equipment certified under chapter III of the Convention for installation and use on board ships undertake to ensure that equipment, instructions, specialized tools, spare parts, training and accessories, as required, are available to independent service providers in a timely and cost-effective manner;

4 REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the Requirements, contained in the annex, to all Contracting Governments to the Convention; and

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and the annex to all Members of the Organization which are not Contracting Governments to the Convention.

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ANNEX

REQUIREMENTS FOR MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS AND RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR

1 GENERAL

1.1 The objective of these Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear (the Requirements) is to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of the equipment specified in paragraph 2.1.

1.2 The detailed procedures covered by these Requirements are provided in section 6.

1.3 These Requirements relate to the following regulations:

.1 SOLAS regulation III/20 – Operational readiness, maintenance and inspections; and

.2 SOLAS regulation III/36 – Instructions for onboard maintenance.

1.4 The Company[1] shall ensure that maintenance, thorough examination, operational testing, overhaul and repair on board its ships is conducted in accordance with these Requirements and SOLAS regulation III/20. The Company shall establish and implement health, safety and environment (HSE) procedures covering all activities set out in these Requirements.

1.5 The personnel carrying out maintenance, thorough examination, operational testing overhaul and repair as described in paragraphs 4.2 and 4.3 shall be certified by an authorized service provider in accordance with the requirements specified in section 8. When performing such activities on board ships they shall comply with health, safety and environment (HSE) instructions and procedures established by the Company.

2 APPLICATION

2.1 These Requirements shall apply to the maintenance, thorough examination, operational testing, overhaul and repair of:

.1 lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats; and

.2 launching appliances and on-load and off-load release gear for lifeboats (including primary and secondary means of launching appliances for free-fall lifeboats), rescue boats, fast rescue boats and davit launched liferafts.

2.2 For the purpose of these Requirements:

.1 *Authorized service provider* means an entity authorized by the Administration in accordance with section 3 and section 7.

.2 *Equipment* means the aforementioned equipment to which the Requirements apply.

[1] For the purpose of these Requirements, Company is as defined in SOLAS regulation IX/1.2.

.3 *Manufacturer* means the original equipment manufacturer or any entity which has taken legal and legitimate responsibilities for equipment when the original equipment manufacturer no longer exists or supports the equipment.

.4 *Off-load release mechanism* means a release mechanism which releases the survival craft/rescue boat/fast rescue boat when it is waterborne or when there is no load on the hooks.

.5 *On-load release mechanism* means a release mechanism which releases the survival craft/rescue boat/fast rescue boat with load on the hooks.

.6 *Repair* means any activities requiring disassembly of equipment, or any other activities outside the scope of the instructions for onboard maintenance and for emergency repair of life-saving appliances prepared in accordance with SOLAS regulations III/36.2 and III/35.3.18, respectively.

.7 *Overhaul* means a periodical activity defined by the manufacturer that proves continued fitness for purpose for a defined period subject to correct maintenance.

3 AUTHORIZATION

3.1 Administrations shall ensure that the thorough examination, operational testing, repair and overhaul of equipment (see paragraphs 4.2 and 4.3) shall be carried out in accordance with SOLAS regulation III/20 by service providers authorized in accordance with section 7.

3.2 The requirements in section 7 shall equally apply to equipment manufacturers when they are acting as authorized service providers.

4 QUALIFICATION LEVELS AND CERTIFICATION

4.1 Weekly and monthly inspections and routine maintenance as specified in the equipment maintenance manual(s), shall be conducted by authorized service providers, or by shipboard personnel under the direction of a senior ship's officer in accordance with the maintenance manual(s).

4.2 Annual thorough examinations and operational tests, as described in section 6.2, shall be conducted by certified personnel of either the equipment manufacturer or an authorized service provider in accordance with section 7 and section 8. The service provider may be the ship operator provided that it is authorized in accordance with section 3 and section 7.

4.3 Five-year thorough examination, any overhaul, overload operational tests[2], as described in section 6.3, and repair shall be conducted by certified personnel of either the equipment manufacturer or an authorized service provider in accordance with section 7 and section 8.

5 REPORTS AND RECORDS

5.1 All reports and checklists shall be completed and signed by the person who carries out the inspection and maintenance work and counter-signed by the company's representative or the ship's master.

[2] See SOLAS regulations III/20.11.1.2, III/20.11.2.2 and III/20.11.3.2.

5.2 Records of maintenance, thorough examination, operational testing, overhaul and repair shall be updated and filed on board the ship for the service life of the equipment.

5.3 When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the manufacturer or authorized service provider that conducted the work. A copy of valid documents of certification and authorization as appropriate shall be included with the statement.

6 SPECIFIC PROCEDURES FOR INSPECTION, MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR

6.1 General/Maintenance

6.1.1 Any inspection, maintenance, thorough examination, operational testing, overhaul and repair shall be carried out according to the maintenance manuals and associated technical documentation developed by the manufacturer.

6.1.2 A full set of maintenance manuals and associated technical documentation as specified in paragraph 6.1.1 shall be available on board.

6.1.3 The maintenance manuals and associated technical documentation as specified in paragraph 6.1.1 shall include the items listed in sections 6.2 and 6.3 as a minimum and shall be kept up to date by the Company taking into account relevant information provided by the manufacturer.

6.2 Annual thorough examination and operational test

6.2.1 All items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7 also form the first part of the annual thorough examination.

6.2.2 Records of inspections and routine on board maintenance carried out by the ship's crew and the applicable certificates for the equipment shall be reviewed.

6.2.3 For lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, the following items shall be thoroughly examined and checked for satisfactory condition and operation:

.1 condition of the boat structure including fixed and loose equipment (including a visual examination of the external boundaries of the void spaces, as far as practicable);

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system;

.7 bailing system;

.8 fender/skate arrangements; and

.9 rescue boat righting system, where fitted.

6.2.4 For release gear of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following shall be thoroughly examined for satisfactory condition[3] and operation after the annual operational test of the winch brake with the empty boat or equivalent load, as required by paragraph 6.2.10:

.1 operation of devices for activation of release gear;

.2 excessive free play (tolerances);

.3 hydrostatic interlock system, where fitted;

.4 cables for control and release; and

.5 hook fastening.

Notes: 1 The setting and maintenance of release gear are critical operations with regard to maintaining the safe operation of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and davit launched liferafts. Utmost care shall be taken when carrying out all inspection and maintenance operations on the equipment.

2 No maintenance or adjustment of the release gear shall be undertaken while the hooks are under load.

6.2.5 The operational test of davit-launched lifeboats' and rescue boats' on-load release function shall be carried out as follows:

.1 position the boat partially in the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;

.2 operate the on-load release gear;

.3 reset the on-load release gear; and

.4 examine the release gear and hook fastening to ensure that the hook is completely reset and no damage has occurred.

6.2.6 The operational test of davit-launched lifeboats' and rescue boats' off-load release function shall be carried out as follows:

.1 position the boat so that it is fully waterborne;

.2 operate the off-load release gear;

.3 reset the off-load release gear; and

.4 recover the boat to the stowed position and prepare for operational readiness.

[3] Hanging-off pennants may be used for this purpose but should not remain connected at other times, such as when the lifeboat is normally stowed and during training exercises. The release gear is to be examined prior to its operational test. The release gear is to be re-examined after its operational test and the operational test of the winch brake. Special consideration shall be given to ensure that no damage has occurred during the winch brake test, especially to the hook fastening.

During the test, prior to hoisting, it shall be checked that the release gear is completely and properly reset. The final turning-in of the boat shall be done without any persons on board.

6.2.7 The operational test of the free-fall lifeboat release function shall be carried out as follows:

.1 engage the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code, as specified in the manufacturer's operating instructions;

.2 if required to be on board, ensure that the operator is properly seated and secured in the seat location from which the release mechanism is to be operated;

.3 operate the release mechanism to release the lifeboat;

.4 reset the lifeboat in the stowed configuration;

.5 repeat the procedures referred to in .2 to .4 above, using the back-up release mechanism, if applicable;

.6 remove the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code; and

.7 verify that the lifeboat is in the ready to launch stowed configuration.

6.2.8 The operational test of the davit-launched liferaft automatic release function shall be carried out as follows:

.1 manually release the hook with a load of 150 kg on the hook;

.2 automatically release the hook with a dummy weight of 200 kg on the hook when it is lowered to the ground; and

.3 examine the release hook and hook fastening to ensure that the hook is completely reset and no damage has occurred.

If a raft is used for the test instead of a dummy weight, the automatic release function shall release the raft when waterborne.

6.2.9 For launching appliances for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following items shall be examined for satisfactory condition and operation:

.1 davit or other launching structures, in particular with regard to corrosion, misalignments, deformation and excessive free play;

.2 wires and sheaves, possible damages such as kinks and corrosion;

.3 lubrication of wires, sheaves and moving parts; and

.4 if applicable:

.1 functioning of limit switches;

.2 stored power systems;

.3 hydraulic systems; and

.5 for winches:

.1 inspecting the braking system in accordance with winch manual;

.2 replacing brake pads, when necessary;

.3 winch foundation; and

.4 if applicable:

.1 remote control system; and

.2 power supply system.

6.2.10 For winches of the launching appliances for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, annual operational testing shall be done by lowering the empty craft or boat or equivalent load. When the craft has reached its maximum lowering speed and before the craft enters the water, the brake shall be abruptly applied. Following these tests, the stressed structural parts shall be reinspected[4] where possible.

6.3 Five-year thorough examination, overhaul and overload operational tests

6.3.1 The five-year operational test of the winches of the launching appliances shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment. When the proof load has reached its maximum lowering speed, the brake shall be abruptly applied.

6.3.2 Following these tests, the stressed structural parts shall be reinspected[4] where possible.

6.3.3 The operational tests and overhaul at five years intervals of release gear for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts shall include:

.1 dismantling of hook release units;

.2 examinations with regard to tolerances and design requirements;

.3 adjustment of release gear system after assembly;

.4 operational tests as per paragraphs 6.2.5, 6.2.6, 6.2.7 or 6.2.8 above, as applicable, but with a load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment; and

.5 examinations of vital parts with regard to defects and cracks[5].

6.3.4 Any other overhaul if required shall be carried out in accordance with paragraph 6.3.3.

[4] In loading the craft or boat for this test, precautions should be taken to ensure that the stability of the craft or boat is not adversely affected by free surface effects or the raising of the centre of gravity.

[5] Non-destructive examination (NDE) techniques, such as dye penetrants (DPE), may be suitable.

7 REQUIREMENTS FOR AUTHORIZATION OF SERVICE PROVIDERS

7.1 Authorization as required by paragraph 3.1 shall include, as a minimum, demonstration of:

.1 employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification programme. In either case, the certification programme shall comply with section 8 for each make and type of equipment for which service is to be provided;

.2 availability of sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;

.3 access to appropriate parts and accessories as specified for maintenance and repair;

.4 availability of the equipment manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches; and

.5 a documented and certified quality system, which covers at least the following:

.1 code of conduct for personnel involved in the relevant activity;

.2 maintenance and calibration of measuring tools and gauges;

.3 training programmes for personnel;

.4 supervision and verification to ensure compliance with operational procedures;

.5 recording and reporting of information;

.6 quality management of subsidiaries and agents;

.7 job preparation; and

.8 periodic review of work process procedures, complaints, corrective actions and issuance, maintenance and control of documents.

Note: A documented quality system complying with the most current version of the ISO 9000 series and including the above items would be considered acceptable.

7.2 Administrations shall ensure that information regarding authorized service providers is made available.

7.3 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, Administrations may authorize service providers for the equipment on the basis of prior authorization for the equipment and/or long-term experience and demonstrated expertise as an authorized service provider.

7.4 Issuance and maintenance of authorization document:

.1 upon successful initial audit of a service provider, an authorization document shall be issued by the Administration defining the scope of services provided (e.g. makes and types of equipment). The expiry date shall be clearly written on the document;

.2 the Administration shall ensure that work continues, e.g. by periodic audit, to be carried out in accordance with these Requirements, and shall withdraw the authorization of service providers who are not in compliance; and

.3 the Administration may accept or recognize service providers authorized by other Administrations or by their Recognized Organizations.

8 REQUIREMENTS FOR CERTIFICATION OF PERSONNEL

8.1 Personnel for the work specified in paragraphs 4.2 and 4.3 shall be certified by the equipment manufacturer or authorized service provider for each make and type of the equipment to be worked on in accordance with the provisions in this section.

8.2 Education and training

8.2.1 Initial certification shall be issued only to personnel having completed education, training and competence assessment. Education shall address, as a minimum:

.1 relevant rules and regulations, including international conventions;

.2 design and construction of lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, including on-load release gear and launching appliances;

.3 causes of lifeboat and rescue boat accidents;

.4 education and practical training in the procedures specified in section 6 for which certification is sought;

.5 detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboat (including free-fall lifeboats), rescue boats and fast rescue boats, launching appliances and on-load release gear, as applicable;

.6 procedures for issuing a report of service and statement of fitness for purpose based on paragraph 5.3; and

.7 work, health and safety issues while conducting activities on board.

8.2.2 Training shall include practical technical training on thorough examination, operational testing, maintenance, repair and overhaul techniques using the equipment for which the personnel are to be certified. The technical training shall include disassembly, reassembly, correct operation and adjustment of the equipment. Classroom training shall be supplemented by field experience in the operations for which certification is sought, under the supervision of a certified person.

8.2.3 Prior to issuance of certification, a competency assessment shall be satisfactorily completed, using the equipment for which the personnel are to be certified.

8.3 Validity of certificates and renewal

8.3.1 Upon completion of training and competency assessment, a certificate shall be issued defining the level of qualification and the scope of the certification (i.e. makes and types of equipment and specifically state which activities in paragraphs 4.2 and 4.3 are covered by the certification). The expiry date shall clearly be written on the certificate and shall be three years from the date of issue. The validity of any certificate shall be suspended in the event of any shortfall in performance and only revalidated after a further competency assessment.

8.3.2 A competency assessment, shall be conducted to renew the certification. In cases where refresher training is found necessary a further assessment shall be carried out after completion.

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ANNEX 4

DRAFT MSC CIRCULAR

AMENDMENTS TO THE GUIDELINES ON ALTERNATIVE DESIGN AND ARRANGEMENTS FOR FIRE SAFETY (MSC/CIRC.1002)

1 The Maritime Safety Committee, at its [ninety-seventh session (21 to 25 November 2016)], with a view to providing more specific guidance on the application of SOLAS regulation II-2/17, approved amendments to the *Guidelines on alternative design and arrangements for fire safety* (MSC/Circ.1002), as prepared by the Sub-Committee on Ship Systems and Equipment, at its third session (14 to 18 March 2016), as set out in the annex.

2 Member Governments are invited to use the annexed amendments to MSC/Circ.1002 and to bring them to the attention of all parties concerned.

ANNEX

AMENDMENTS TO GUIDELINES ON ALTERNATIVE DESIGN AND ARRANGEMENTS FOR FIRE SAFETY (MSC/CIRC.1002)

1 The following new appendix A is inserted before the existing appendix A and the existing appendices A to C are renamed to appendices B to D accordingly:

"**APPENDIX A**

GUIDELINES FOR THE SELECTION OF LIFE SAFETY PERFORMANCE CRITERIA

1 Application

These guidelines are intended to provide a methodology for the selection of performance criteria used to address the survivability of persons on board when exposed to the effects of heat, smoke, toxicity and reduced visibility, as referenced by paragraph 6.3.4.1 of the annex. The primary purpose of these guidelines is to assist Administrations when evaluating proposed alternative designs and arrangements against the fire safety objective "to reduce the risk to life caused by fire" (SOLAS regulation II-2/2.1.1.2). These guidelines may also be used to establish minimum safety margins in the available time for safe escape from spaces approved with alternative design and arrangements in accordance with SOLAS regulation II-2/17. The Administration may require more comprehensive analysis for complex or unusual space arrangements.

2 Definitions

Evacuation time means the time it takes for all persons in the affected space to move from where they are upon notification of a fire to a safe location outside the space, either in an enclosed stairway or another main vertical zone.

Minimum visibility means the minimum visible distance needed to allow escaping persons on board to travel at normal walking speed through spaces obscured by smoke.

Available safe egress time (ASET) means the available time to egress safely the space/spaces affected by the fire or smoke (see also paragraph 4.1.2).

Required safe egress time (*RSET)* means the required time to egress safely the space/spaces affected by the fire or smoke (see also paragraph 4.1.1).

3 General

MSC/Circ.1002 provides a methodology for justifying alternative design and arrangements as permitted by SOLAS regulation II-2/17. The fundamental principle behind this method of analysis is to show that the alternative design provides an adequate level of safety that it is at least equivalent to the life safety performance criteria outlined in section 4.2 below or the fire safety level of a comparable prescriptive design if appropriate using SOLAS chapter II-2, whichever is greater using a probabilistic analysis where appropriate. This is typically done with the aid of

computer-based simulations of design fire scenarios that show the expected development of fire growth and its related consequences on the affected space. The fire effects over time are typically used in conjunction with an evacuation analysis to show that all persons on board can safely escape from the affected space(s) before the fire effluents reach a level capable of adversely impacting evacuation. In cases where the particular alternative design and arrangement may not require a comparison against the available evacuation time, the Administration should determine how the life safety performance criteria should apply.

The methodology used in MSC/Circ.1002 to provide technical justification for alternative design and arrangements relies on the development of one or more design fire scenarios that define a set of conditions for the development and spread of fire through the affected ship space(s). The design fire scenarios are based on a review of the particular alternative design and arrangement, the type and amount of combustible materials expected in the space(s), and localized ignition sources. The alternative design and arrangement is then exposed to the design fire scenarios using appropriate computer fire modelling. In order to show that a level of safety is achieved that is equivalent to the fire safety objectives and functional requirements specified in SOLAS regulation II-2/2, quantitative performance criteria should be considered to evaluate the exposure of persons on board to heat and smoke, as well as criteria for damage to the ship and the environment.

Specific life safety performance criteria should be developed for each proposed alternative design and arrangement, taking into account the nature of the fire hazards in the affected space(s), expected fuel sources, fire extinguishing and detection systems in the affected areas, and the characteristics of persons on board. These life safety performance criteria should be expressed in quantitative terms selected to demonstrate that the alternative design meets the fire safety objectives and functional requirements in SOLAS chapter II-2 with reasonable confidence that it will perform its intended function(s) when necessary and in a manner which satisfies the intent of the prescriptive fire safety requirements outlined in SOLAS chapter II-2.

At a minimum, the effects of radiant heat exposure, air temperature, carbon monoxide concentration and reduced visibility should be included in all SOLAS regulation II-2/17 analyses. Depending on the specific nature of the alternative design and arrangement, the Administration should consider if additional performance criteria may be necessary, such as toxicity of other gases and irritants, and the order of movement for persons on board.

An important part of the overall engineering analysis used in determining the suitability of the alternative design is the quantitative analysis. As described in the annex above, a quantitative analysis should be conducted by evaluating the design fires scenarios against the life safety performance criteria (sections 4.3.5 and 6 of the annex). One should also note that risk may play an important role in this process (section 6.1.2 of the annex). When evaluating probabilistic scenarios, care must be taken to appropriately apply the relevant fire safety engineering design guides and other literature as referenced in section 3 and appendix D of the annex (section 1.3) to ensure that these risks are well understood and accounted for.

Further information on the selection of life safety performance criteria may be found below and in appendix D:

.1 SFPE Engineering Guide to Performance-Based Fire Protection, Society of Fire Protection Engineers and National Fire Protection Association, Second Edition, 2007;

.2 ISO 19706:2011, Guidelines for assessing the fire threat to people;

.3 ISO 13571:2012, Life-threating components of fire – Guidelines for the estimation of time to compromising tenability; and

.4 ISO 13344:2015 Estimation of the lethal toxic potency of fire effluents.

4 Method

Advanced simulation tools should be used to assess the fire safety performance within the affected space(s) proposed by the alternative design or arrangement.

When evaluating the evacuation time, an advanced evacuation simulation tool, or tools, should be used to determine the maximum time required to evacuate the affected space. Such tools may use varying assumptions and algorithms to simulate walking speeds and the order of passenger movement. The advanced method contained in annex 2 to the *Revised guidelines on evacuation analyses for new and existing passenger ships* [(MSC.1/Circ.…)] provides information on the recommended characteristics of the simulation tools used to conduct an evacuation analysis.

Similarly, when evaluating design fires to determine the elapsed time before the effects of fire and smoke directly impact occupant tenability, suitable computational fluid dynamics (CFD) fire modelling software acceptable to the Administration should be utilized (see annex, sections 3.1, 6.2.1, 6.2.3 and appendix D).

4.1 ASET/RSET analysis

In general, an ASET/RSET analysis, as outlined below, should be used to assess the safe escape for all persons or to determine the number of affected persons within the space.

4.1.1 Determine the Required Safe Egress Time (RSET)

Using an appropriate methodology, determine the maximum RSET to completely evacuate the space, using either the day or night case response time distributions, as applicable to the affected space(s), assuming occupancy in accordance with chapter 13 of the FSS Code. In the case that the simulation is carried out according to the advanced methodology in MSC.1/Circ.1238, the safety factor of 1.25 given in annex 2, paragraph 3.5.1 should be applied.

4.1.2 Determine the Available Safe Egress Time (ASET)

The ASET is the time required to maintain tenability between the ignition of a fire and the performance criteria thresholds (specified in section 4.2 below) being exceeded within the range of zero to two meters (0 – 2 m) above the deck being considered in public

spaces and zero to one point eight meters (0 – 1.8 m) in all other areas. In multiple open deck spaces (e.g. atria), each deck normally accessible to persons on board should be considered simultaneously. These performance criteria are not intended to evaluate the tenability of the volume of space in the immediate vicinity of the fire (if they were, all designs would quickly fail). Instead, this evaluation should identify the expected location of affected populations (at a corresponding time of RSET in a given space) and evaluate their direct exposure to any immediate (e.g. heat flux and temperature) and prolonged (e.g. visibility and toxic environment) exposure to the effects caused by fire.

4.2 Life safety performance criteria

4.2.1 The following life safety performance criteria should be used when evaluating the ASET in section 4.1 above:

Maximum air temperature	60ºC
Maximum radiant heat flux	2.5 kW/m^2
Minimum visibility	10 m; 5 m in spaces ≤ 100 m^2
Maximum CO concentration	1200 ppm (instantaneous exposure) 500 ppm (for 20 min cumulative exposure times)

These four performance criteria are deemed sufficient for designs where alternative geometry, physical dimensions or safety systems are proposed. For other types of alternative designs, especially related to changes in combustible materials, ventilation, etc. specific quantities of other toxic gases or irritants may be appropriate (e.g. HCN, HCl).

4.2.2 If the ASET in all cases exceeds the RSET, no further analysis is needed. Control measures such as smoke management systems and equipment may be provided to aid in the achievement of this result, subject to the satisfaction of the Administration.

4.2.3 If any of the values in paragraph 4.2.1 are exceeded during the evacuation (ASET < RSET), then at a minimum, a fractional effective dose (FED – thermal dose and/or asphixiant gases depending on the results) calculation should be performed in accordance with standard ISO 13571:2012 to demonstrate that a maximum threshold criterion of 0.3 will not be exceeded prior to the RSET being reached (note – visibility may be the overriding limiting factor). Alternative standards such as risk performance criteria acceptable to the Administration (e.g. using FSA Guidelines (MSC-MEPC.2/Circ.12/Rev.1)) may also be used if desired by the Administration.

4.2.4 Administrations should approve alternative designs and arrangements only when their comprehensive engineering analysis, including a probabilistic analysis as appropriate, demonstrates an acceptable level of performance based upon application of the life safety performance criteria specified in 4.2 above."

2 In the renamed appendix D, the existing paragraph 4 is replaced as follows:

"4 Other important technical references include:

.1 Custer, R.L.P., and Meacham, B.J., *Introduction to Performance-Based Fire Safety*, Society of Fire Protection Engineers, USA, 1997;

.2 Engineering Guide to Assessing Flame Radiation to External Targets from Liquid Pool Fires, Society of Fire Protection Engineers, Bethesda, MD, 1999;

.3 Engineering Guide to Predicting 1st and 2nd degree Skin Burns, Society of Fire Protection Engineers, Bethesda, MD, 1999;

.4 Fire Protection Handbook, 20th Edition, A. E. Cote, ed., National Fire Protection Association, Quincy, MA, 2008;

.5 Hadjisophocleous, G and Benechou, N., "Performance criteria used in performance-based Design", Automation in Construction, 8 (489-501), 1999;

.6 Hurley, M.J., and Bukowski, R.W., "Fire hazard analysis and techniques", NFPA Fire Protection Handbook 20th Ed., Sec. 3 Ch. 7, 2008;

.7 ISO 13344:2015 Estimation of the lethal toxic potency of fire effluents;

.8 ISO 13571:2012, Life-threatening components of fire – Guidelines for the estimation of time to compromised tenability in fires;

.9 ISO 13943:2008, Fire safety – Vocabulary;

.10 ISO 19706:2011, Guidelines for assessing the fire threat to people;

.11 Jin, T., "Studies of Emotional Instability in Smoke from Fires", Journal of Fire and Flammability, Vol. 12 (130-142), 1981;

.12 Klote, J.H. and Milke, J.A., "Principles of Smoke Management", American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Atlanta, GA, 2002;

.13 Milke, J.A., et al., "Tenability Analyses in Performance-Based Design", Fire Protection Engineering, 2005;

.14 NFPA 550, *Guide to the Use of the Fire Safety Concepts Tree*, National Fire Protection Association, 1995;

.15 Purser, D.A., "Assessment of Hazards to Occupants from Smoke, Toxic Gases, and Heat", The SFPE Handbook of Fire Protection Engineering, 4th Edition, National Fire Protection Association, Quincy, MA, 2002;

.16 SFPE Engineering Guide to Performance-Based Fire Protection, Society of Fire Protection Engineers and National Fire Protection Association, 2nd Edition, 2007;

.17 SFPE Handbook of Fire Protection Engineering, 4th Edition, P. J. DiNenno, ed., The Society of Fire Protection Engineers, Boston, MA, 2008; and

.18 Wade, C. et al., "Developing Fire Performance Criteria for New Zealand's Performance Based Building Code", Presented at the Fire Safety Engineering International Seminar, Paris, France, April, 2007."

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ANNEX 5

DRAFT AMENDMENTS TO SOLAS REGULATION II-2/9.4.1.3[1]

The text of the existing paragraph 4.1.3.3 is amended to read as follows:

"4.1.3.3 ~~Windows~~ For ships carrying more than 36 passengers, windows facing ~~life-saving appliances~~ survival craft, embarkation and assembly stations, external stairs and open decks used for escape routes, and windows situated below liferaft and escape slide, embarkation areas shall have fire integrity as required in table 9.1. Where automatic dedicated sprinkler heads are provided for windows, "A-0" windows may be accepted as equivalent. To be considered under this paragraph, the sprinkler heads must either be:

.1 dedicated heads located above the windows, and installed in addition to the conventional ceiling sprinklers; or

.2 conventional ceiling sprinkler heads arranged such that the window is protected by an average application rate of at least 5 l/min/m² and the additional window area is included in the calculation of the area of coverage; or

.3 water-mist nozzles that have been tested and approved in accordance with the guidelines approved by the Organization*.

Windows located in the ship's side below the lifeboat embarkation area shall have fire integrity at least equal to "A-0" class.

4.1.3.~~5~~4 For ships carrying not more than 36 passengers, windows facing survival craft and escape slide, embarkation areas and windows situated below such areas shall have fire integrity at least equal to "A-0" class.

* Refer to the Revised guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12 (resolution A.800(19), as amended)."

[1] Tracked changes are created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

APPENDIX 1[2]

CHECK/MONITORING SHEET FOR THE PROCESSING OF AMENDMENTS TO THE CONVENTION AND RELATED MANDATORY INSTRUMENTS (PROPOSAL/DEVELOPMENT)

Part III – Process monitoring to be completed during the work process at the sub-committee and checked as part of the final approval process by the Committee (Refer to section 3.2.1.3)**

1	The sub-committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one sub-committee and for which the timing of relevant sub-committees meetings and exchanges of the result of consideration needed to be carefully examined.	yes
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	yes
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the sub-committee offers the Committee an alternative method of addressing the problem raised by the proposal.	yes
4	Due attention has been paid to the *Interim guidelines for the systematic application of the grandfather clauses* (MSC/Circ.765-MEPC/Circ.315).	yes
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	yes
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	yes
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	yes
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	yes
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	yes

[2] This appendix is reproduced in English only.

Part III – Process monitoring to be completed during the work process at the sub-committee and checked as part of the final approval process by the Committee (Refer to section 3.2.1.3)**

10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	not applicable
11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	not applicable
12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	yes
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	yes
14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	yes
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	yes
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	not applicable
17	The related record format has been completed or updated, as appropriate.	yes

* Parts I and II should be completed by the submitter of a proposed new amendment, to the fullest extent possible.

** Part III should be completed by the drafting/working group that prepared the draft text using "yes", "no" or "not applicable".

APPENDIX 2[1]

RECORDS FOR REGULATORY DEVELOPMENT

The following records should be created and kept updated for each regulatory development.

The records can be completed by providing references to paragraphs of related documents containing the relevant information, proposals, discussions and decisions.

1	**Title (number and title of regulation(s))**
SOLAS regulation II-2/9 – Containment of fire Section 4.1.3 – Windows and sidescuttles	
2	**Origin of the requirement (original proposal document)**
SDC 2/25, paragraphs 24.10 to 24.13 and annex 21	
3	**Main reason for the development (extract from the proposal document)**
Based on the consideration of document SDC 2/24/1 (Marshall Islands, Norway, Panama, IACS), it has been identified that the provisions of SOLAS regulation II-2/9.4.1.3.3, as currently drafted, do not facilitate the consistent and global implementation of the intent of this regulation as it might be applied to passenger ships carrying not more than 36 passengers (or special purpose ships carrying more than 60, but not more than 240 persons on board). Consequently, the SDC Sub-Committee, at its second session, agreed to the justification for a new unplanned output on clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but not more than 240) persons on board, for consideration by MSC 95.	
4	**Related output**
Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board (5.1.1.2)	
5	**History of the discussion (approval of work programmes, sessions of sub-committees, including CG/DG/WG arrangements)**
SDC 2 agreed to the justification for a new unplanned output on clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but not more than 240) persons on board (SDC 2/25, paragraphs 24.10 to 24.13 and annex 21). **MSC 95** considered the proposal for a new planned output prepared by SDC 2 and agreed to include, in the 2016-2017 biennial agenda of the SSE Sub-Committee and in the provisional agenda for SSE 3, a new planned output on "Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board", with a target completion year of 2017.	

[2] This appendix is reproduced in English only.

SSE 3 having considered documents SSE 3/7 (Marshall Islands, IACS) and SSE 3/7/1 (United States), and following discussion, agreed to instruct the Working Group on Fire Protection to finalize the draft amendments to SOLAS regulation II-2/9.4.1.3, based on the annex to document SSE 3/7/1 (SSE 3/16, paragraphs 7.3 to 7.5). Having considered the part of the report of the Working Group on Fire Protection (SSE 3/WP.4) dealing with this output, the Sub-Committee endorsed the proposed amendments to SOLAS regulation II-2/9.4.1.3.3, with a view to approval at MSC 97 and subsequent adoption at MSC 98 (SSE 3/16, paragraphs 7.8 and 7.9).
6 Impact on other instruments (e.g. codes, performance standards, guidance circulars, certificates/records format, etc.)
Not applicable
7 Technical background
7.1 Scope and objective (to cross check with items 4 and 5 in part II of the checklist)
Facilitation of consistent and global implementation of SOLAS regulation II-2/9.4.1.3.3. The proposed amendments apply to new ships and existing ships after repairs, alterations and modifications of a major character.
7.2 Technical/operational background and rationale (summary of FSA study, etc., if available or, engineering challenge posed, etc.)
Not applicable
7.3 Source/derivation of requirement (non-mandatory instrument, industry standard, national/regional requirement)
Not applicable
7.4 Short summary of requirement (what is the new requirement – in short and lay terms)
Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board.
7.5 Points of discussions (controversial points and conclusion)
SOLAS regulation II-2/9.4.1.3.3 was clarified by separating the text into two paragraphs, the first paragraph with the requirements applicable to passenger ships carrying more than 36 passengers, and the second paragraph with the requirements specific to passenger ships carrying not more than 36 passengers. Additionally, the requirement to use of "A-0" class windows.

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ANNEX 6

DRAFT MSC CIRCULAR

SHIPBOARD ESCAPE ROUTE SIGNS AND EMERGENCY EQUIPMENT LOCATION MARKINGS

1 The Maritime Safety Committee, at its seventy-fifth session (15 to 24 May 2002), having noted that ISO was developing a new ISO standard for shipboard signage for life-saving appliances and arrangements and means of escape, agreed that, once the aforementioned standard was published, it may be taken into consideration in the context of revising resolution A.760(18) on *Symbols related to life-saving appliances and arrangements*, as amended by resolution MSC.82(70).*

2 The Committee, at its [ninety-sixth session (11 to 20 May 2016)], noted that resolution A.760(18) recognizes the need for uniform international symbols to indicate the location of emergency equipment as well as assembly and embarkation stations and that the Assembly had urged Member Governments to ensure that the symbols annexed to that resolution were used, where appropriate.

3 The Committee, having noted that ISO had published its standard ISO 24409-2:2014, *Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings – Part 2: Catalogue,* which generally conforms to the corresponding symbols set out in the annex to resolution A.760(18), as amended, and the annex to resolution A.952(23) on *Graphical symbols for fire control plans*, decided that the ISO standard 24409 series should be brought to the attention of Member Governments.

4 It is the intention of the Committee to prepare a revision of resolution A.760(18), which will incorporate the graphical symbols contained therein, the above-mentioned ISO standard, without any changes, for adoption by the Committee at its ninety-ninth session in 2018.

5 Member Governments are invited to bring the ISO standard 24409 series to the attention of ship designers, shipbuilders, shipowners, ship operators, ship masters, shore-based firefighting personnel and other parties concerned, so that they may use it, on a voluntary basis, for shipboard signage, in compliance with the relevant requirements of SOLAS chapters II-2 and III, pending the adoption of the revised resolution.

6 Member Governments are also invited to note that existing ships may still use resolution A.760(18), as amended, for shipboard signage.

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* Refer to paragraph 7 of MSC/Circ.1050.

ANNEX 7

DRAFT MSC CIRCULAR

UNIFIED INTERPRETATION OF CHAPTER 9 OF THE FSS CODE

1 The Maritime Safety Committee, at its [ninety-sixth session (…)], with a view to providing more specific guidance on sizing the emergency power source for the fire detection and alarm system, approved unified interpretation on chapter 9 of the FSS Code, prepared by the Sub-Committee on Ship Systems and Equipment at its third session (14 to 18 March 2016), as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying paragraph 2.2.4 of chapter 9 of the FSS Code and to bring the unified interpretation to the attention of all parties concerned.

ANNEX

UNIFIED INTERPRETATION OF CHAPTER 9 OF THE FSS CODE

CHAPTER 9 OF THE FSS CODE

Fixed fire detection and fire alarm systems

The "30 minutes" in paragraph 2.2.4 of chapter 9 of the FSS Code means the last 30 minutes of the periods required under SOLAS regulations II-1/42 and II-1/43 (18 hours for cargo ships and 36 hours for passenger ships).

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ANNEX 8

DRAFT MSC CIRCULAR

UNIFIED INTERPRETATION OF SOLAS CHAPTER II-2

1 The Maritime Safety Committee, at its [ninety-seventh session (…)], with a view to providing more specific guidance on the definition of vehicle carrier; suitable connections for the supply of inert gas to double-hull spaces; ventilation provided by fan coil units and internal circulation fans; the fire integrity of the bulkheads between the wheelhouse and a toilet inside the wheelhouse; the suitable number of spare air cylinders to be provided in connection with drills; and sources of ignition on board ships carrying dangerous goods, approved unified interpretations on SOLAS chapter II-2, prepared by the Sub-Committee on Ship Systems and Equipment at its third session (14 to 18 March 2016), as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretations as guidance when applying SOLAS regulations II-2/3 to II-2/5, II-2/7, II-2/9, II-2/15, II-2/19 and II-2/20-1 and to bring the unified interpretations to the attention of all parties concerned.

ANNEX

UNIFIED INTERPRETATIONS OF SOLAS CHAPTER II-2

SOLAS REGULATIONS II-2/3.56 AND II-2/20-1, AS AMENDED BY RESOLUTION MSC.365(93)

Definition of vehicle carrier

The definition of vehicle carrier in SOLAS regulation II-2/3.56 is intended for pure car and truck carriers, and should not include other ro-ro cargo ships or con-ro ships when carrying empty cars and trucks as cargo.

SOLAS REGULATION II-2/4.5.5.1, AS AMENDED BY RESOLUTION MSC.365(93)

Inert gas supply to double-hull spaces

Double-hull spaces required to be fitted with suitable connections for the supply of inert gas as per SOLAS regulation II-2/4.5.5.1.4.1 are all ballast tanks and void spaces of double-hull and double-bottom spaces adjacent to the cargo tanks, including the forepeak tank and any other tanks and spaces under the bulkhead deck adjacent to cargo tanks, except cargo pump-rooms and ballast pump-rooms.

SOLAS REGULATIONS II-2/5.2.1.2, II-2/5.2.1.3 AND II-2/7.9.3

Ventilation by fan coil units and internal circulation fans

The fan in a heat, ventilation and air conditioning (HVAC) temperature control unit, or a circulation fan inside a cabinet/switchboard, is not considered to be a ventilation fan as addressed in SOLAS regulations II-2/5.2.1.2, II-2/5.2.1.3 and II-2/7.9.3, if it is not capable of supplying outside air to the space when the power ventilation is shut down (e.g. small units intended for recirculation of air within a cabin). Therefore, such fans need not be capable of being stopped from an easily accessible position (or a safe position) outside the space being served when applying SOLAS regulations II-2/5.2.1.2 or II-2/5.2.1.3, and need not be capable of being controlled from a continuously manned central control station for passenger ships carrying more than 36 passengers when applying SOLAS regulation II-2/7.9.3.

SOLAS REGULATION II-2/9

Bulkhead between the wheelhouse and toilet inside the wheelhouse

A bulkhead separating the wheelhouse and the toilet, installed completely within the wheelhouse, require no fire rating.

SOLAS REGULATION II-2/15.2.2.6, AS INTRODUCED BY RESOLUTION MSC.338(91)

Suitable number of spare air cylinders to be provided in connection with drills

1 "A suitable number of spare cylinders" to be carried on board to replace those used for fire drills should be at least one "set of cylinders" for each mandatory breathing apparatus, unless additional spare cylinders are required by the shipboard safety management system (SMS).

2 "Set of cylinders" means the number of cylinders which are required to operate the breathing apparatus.

3 No additional cylinders are required for fire drills for breathing apparatus sets required by SOLAS regulation II-2/19, IMSBC Code, the IBC Code or IGC Code.

SOLAS REGULATION II-2/19.3.2

Certified safe type electrical equipment for ships carrying dangerous goods

1 Reference should be made to IEC 60092-506:2003 standard, Electrical installations in ships – Part 506: Special features – Ships carrying specific dangerous goods and materials hazardous only in bulk.

2 For pipes having open ends (e.g. ventilation and bilge pipes) in a hazardous area, the pipe itself should be classified as hazardous area (see IEC 60092-506:2003 table B1, item B).

3 When carrying flammable liquids having flashpoints less than 23°C as Class 3, Class 6.1 or Class 8 in cargo spaces, the bilge pipes with flanges, valves, pumps, etc. constitute a source of release and the enclosing spaces (e.g. pipe tunnels, bilge pump-rooms) should be classified as an extended hazardous area (comparable with zone 2) unless these spaces are continuously mechanically ventilated with a capacity for at least six air changes per hour. Except where the space is protected with redundant mechanical ventilation capable of starting automatically, equipment not certified for zone 2 should be automatically disconnected following loss of ventilation while essential systems such as bilge and ballast systems should be certified for zone 2. Where redundant mechanical ventilation is employed, equipment and essential systems not certified for zone 2 should be interlocked so as to prevent inadvertent operation if the ventilation is not operational. Audible and visible alarms should be provided at a manned station if failure occurs.

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ANNEX 9

DRAFT MSC CIRCULAR

UNIFIED INTERPRETATION OF CHAPTER 8 OF THE FSS CODE AND THE REVISED GUIDELINES FOR APPROVAL OF SPRINKLER SYSTEMS EQUIVALENT TO THAT REFERRED TO IN SOLAS REGULATION II-2/12 (RESOLUTION A.800(19)), AS AMENDED BY RESOLUTION MSC.265(84)

1 The Maritime Safety Committee, at its [ninety-seventh session (21 to 25 November 2016)], with a view to providing more specific guidance on sizing of pumps and pressure tank for automatic sprinkler systems, approved a Unified interpretation of chapter 8 of the FSS Code and the *Revised guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12* (resolution A.800(19)), as amended by resolution MSC.265(84), prepared by the Sub-Committee on Ship Systems and Equipment at its third session (14 to 18 March 2016), as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying paragraphs 2.3.2.1, 2.3.3.2 and 2.5.2.3 of chapter 8 of the FSS Code and paragraphs 3.3 and 3.22 in the aforementioned Revised guidelines, as amended by resolution MSC.265(84), in sizing of pumps and pressure tank for automatic sprinkler systems and to bring the unified interpretation to the attention of all parties concerned.

ANNEX

UNIFIED INTERPRETATION OF CHAPTER 8 OF THE FSS CODE AND THE REVISED GUIDELINES FOR APPROVAL OF SPRINKLER SYSTEMS EQUIVALENT TO THAT REFERRED TO IN SOLAS REGULATION II-2/12 (RESOLUTION A.800(19)), AS AMENDED BY RESOLUTION MSC.265(84)

CHAPTER 8 OF THE FSS CODE

Automatic sprinkler, fire detection and fire alarm systems

For sizing the sprinkler pumps and pressure tank, the calculation method should be as follows:

.1 for sprinkler systems in accordance with chapter 8 of the FSS Code, the pump capacity and pressure tank volume should be calculated by multiplying the 5 *l*/m^2/min application rate times the area of 280 m^2;

.2 for equivalent sprinkler systems, the pump capacity and pressure tank volume, or other means meeting the functional requirements stipulated in the FSS Code, chapter 8, paragraph 2.3.2.1, should be calculated by multiplying the highest application rate of the most hydraulically demanding area at the minimum design pressure, as determined by full scale fire testing according to *Revised guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12* (resolution A.800(19)), as amended by resolution MSC.265(84), times the area of 280 m^2. In cases where multiple types of spaces are located within the hydraulically most demanding 280 m^2 area, the application rate of each respective area should be applied;

.3 for application to a ship with the largest area separated from adjacent spaces by A-class divisions of less than 280 m^2, the area required when sizing pumps and alternate supply components is the largest given area; and

.4 for application to a ship with a total protected area of less than 280 m^2 the Administration may specify the appropriate area for sizing of pumps and alternate supply components.

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ANNEX 10

DRAFT AMENDMENTS TO MSC.1/CIRC.1490[1]

UNIFIED INTERPRETATION OF SOLAS REGULATION III/31.1.4

1 The Maritime Safety Committee, at its [ninety-~~fourth~~seventh session (~~17 to 21 November 2014~~…)], with a view to providing more specific guidance on arrangements for remotely located survival craft, approved a unified interpretation of SOLAS regulation III/31.1.4, ~~prepared~~revised by the Sub-Committee on Ship Systems and Equipment at its ~~first~~third session (~~10 to~~ 14 to 18 March 201~~4~~6), as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying SOLAS regulation III/31.1.4 to the liferafts to be installed on board ships constructed on or after 21 November 2014 and to bring the unified interpretation to the attention of all parties concerned.

3 This circular supersedes MSC.1/Circ.~~1243~~1490.

[1] Tracked changes are created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

ANNEX

UNIFIED INTERPRETATION OF SOLAS REGULATION III/31.1.4

Arrangements for remotely located survival craft

1 Liferafts required by SOLAS regulation III/31.1.4 should be regarded as "remotely located survival craft" with regard to SOLAS regulation III/7.2.1.4.

2 The area where these remotely located survival craft are stowed should be provided with:

.1 a minimum number of two lifejackets and two immersion suits;

.2 adequate means of illumination complying with SOLAS regulation III/16.7, either fixed or portable, which should be capable of illuminating the liferaft stowage position, as well as the area of water into which the liferaft should be launched; portable lights, when used, should have brackets to permit their positioning on both sides of the vessel; ~~and~~

.3 an embarkation ladder or other means of embarkation enabling descent to the water in a controlled manner[2] as per SOLAS regulation III/11.7~~.~~; and

.4 self-contained battery-powered lamps (i.e. luminaires) may be accepted as means of illumination for complying with SOLAS regulation III/16.7. Such lamps should be capable of being recharged from the ship's main and emergency source of electrical power, and should be stowed under charge. When disconnected from the ship's power, the lamp should give a minimum duration of 3 hours of undiminished performance. The lamps should comply with the requirements of section 1.2.3 of the LSA Code. The lamps (i.e. luminaires) should meet the requirements of Ingress Protection rating IP 55. The batteries for the subject lamps should comply with IACS Unified Requirement (UR) E18 requirements irrespective of whether the expiry date is marked by the manufacturer or not.

3 With regard to the distance between the embarkation station and stowage location of the liferaft as required by SOLAS regulation III/31.1.4 (remotely located survival craft), the embarkation station should be so arranged that the requirements of regulation III/13.1.3 can be satisfied.

4 Exceptionally, the embarkation station and stowage position of the liferaft (remotely located survival craft) may be located on different decks provided that the liferaft can be launched from the stowage deck using the attached painter to relocate it to the embarkation ladder positioned on the other deck (traversing a stairway between different decks with the liferaft carried by crew members is not acceptable).

[2] Controlled manner: a knotted rope is not acceptable for this purpose.

5 Notwithstanding paragraph 2, where the exceptional cases mentioned in paragraph 4 exist, the following provisions should be applied:

.1 the lifejackets and the immersion suits required by paragraph 2.1 may be stowed at the embarkation station;

.2 adequate means of illumination complying with paragraph 2.2 should also illuminate the liferaft stowage position, embarkation station and area of water where the liferaft is to be embarked;

.3 the embarkation ladder or other means of embarkation as required by paragraph 2.3 may be stowed at the embarkation station; and

.4 notwithstanding the requirements in paragraph 4.1.3.2 of the LSA Code, the painter should be long enough to reach the relevant embarkation station.

[6 The length of the embarkation ladder used to board this liferaft (remotely located survival craft) is calculated by applying an adverse list of 20 degrees, to the loading condition taken from the approved loading manual which gives the lightest draft at the embarkation station.]

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ANNEX 11

BIENNIAL STATUS REPORT AND OUTPUTS ON THE COMMITTEE'S POST-BIENNIAL AGENDA THAT FALL UNDER THE PURVIEW OF THE SUB-COMMITTEE

Sub-Committee on Ship Systems and Equipment (SSE)								
Output number	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ[1]**	**Status of output for Year 1**	**Status of output for Year 2**	**References**
1.1.2.3	Unified interpretation of provisions of IMO safety, security, and environment-related Conventions	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR		Ongoing		MSC 78/26, paragraph 22.12; SSE 3/16, section 12
5.1.1.2	Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board	2017	MSC	SSE		Completed		MSC 95/22, paragraph 19.30; SSE 3/16, paragraph 7.10
5.1.1.4	Development of life safety performance criteria for alternative design and arrangements for fire safety (MSC/Circ.1002)	2016	MSC	SSE		Completed		MSC 90/28, paragraph 25.12; SSE 3/16, paragraph 6.9
5.1.2.1	Making the provisions of MSC.1/Circ.1206/Rev.1 mandatory	2016	MSC	SSE		Extended		MSC 95/22, paragraphs 12.36 and 19.29;

[1] Associated organ coordinating the joint/consentient work of all associated organs and reporting to the parent organ(s).

Sub-Committee on Ship Systems and Equipment (SSE)								
Output number	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ[1]**	**Status of output for Year 1**	**Status of output for Year 2**	**References**
								SSE 3/16, paragraph 4.21
Note: Target completion year extended to 2017.								
5.1.2.4	Revision of requirements for escape route signs and equipment location markings in SOLAS and related instruments	2016	MSC	HTW	SSE	Extended		MSC 94/21, paragraph 18.24; SSE 3/16, paragraph 10.8
Note: Target completion year extended to 2017.								
5.2.1.5	Revised SOLAS regulations II-1/13 and II-1/13-1 and other related regulations for new ships	2017	MSC	SDC	SSE	In progress		MSC 95/22, paragraphs 19.20 and 19.32; SSE 3/16, section 11
5.2.1.10	Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III	2017	MSC	SSE		In progress		MSC 84/24, paragraph 3.92; SSE 3/16, section 3
5.2.1.11	Amendments to the Guidelines for vessels with dynamic positioning (DP) systems (MSC/Circ.645)	2016	MSC	SSE		Extended		MSC 90/28, paragraph 25.35; SSE 3/16, paragraph 9.7
Note: Target completion year extended to 2017.								

Sub-Committee on Ship Systems and Equipment (SSE)								
Output number	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ[1]**	**Status of output for Year 1**	**Status of output for Year 2**	**References**
5.2.1.14	Review of the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1	2016	MSC	HTW	SSE	Extended		MSC 93/22, paragraph 20.17; SSE 3/16, paragraph 5.14
Note: Target completion year extended to 2017.								
5.2.1.22	Requirements for onboard lifting appliances and winches	2017	MSC	SSE		In progress		MSC 89/25, paragraph 22.26; SSE 3/16, section 8

OUTPUTS ON THE COMMITTEE'S POST-BIENNIAL AGENDA THAT FALL UNDER THE PURVIEW OF THE SUB-COMMITTEE

Sub-Committee on Ship Systems and Equipment (SSE)								
ACCEPTED POST-BIENNIAL OUTPUTS				Parent organ(s)	Associated organs(s)	Coordinating organ	Timescale	References
Number	Biennium[2]	Reference to High-level Actions	Description					
90	2014-2015	5.2.1	Amendments to the LSA Code for thermal performance of immersion suits	MSC	SSE		2	MSC 94/21, paragraphs 8.25 and 18.25

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[2] Biennium when the output was placed on the post-biennial agenda.

ANNEX 12

PROPOSED PROVISIONAL AGENDA FOR SSE 4

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III (5.2.1.10)

4 Making the provisions of MSC.1/Circ.1206/Rev.1 mandatory (5.1.2.1)

5 Review the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1 (5.2.1.14)

6 Requirements for onboard lifting appliances and winches (5.2.1.22)

7 Amendments to the Guidelines for vessels with dynamic positioning (DP) systems (MSC/Circ.645) (5.2.1.11)

8 Revision of requirements for escape route signs and equipment location markings in SOLAS and related instruments (5.1.2.4)

9 Revised SOLAS regulations II-1/13 and II-1/13-1 and other related regulations for new ships (5.2.1.5)

10 Unified interpretation of provisions of IMO safety, security, and environment related conventions (1.1.2.3)

11 Biennial status report and provisional agenda for SSE 5

12 Election of Chairman and Vice-Chairman for 2018

13 Any other business

14 Report to the Maritime Safety Committee

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ANNEX 13

DRAFT AMENDMENTS TO THE 1994 AND 2000 HSC CODES

DRAFT AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)

Chapter 8
Life Saving Appliances and Arrangements

8.10 Survival craft and rescue boats

1 Paragraphs 8.10.1.4 to 8.10.1.6 are amended to read as follows:

"8.10.1 All craft should carry:

…

.4 at least one rescue boat for retrieving persons from the water, but not less than one such boat on each side when the craft is certified to carry more than 450 passengers;

~~.5 craft of less than 20 m in length may be exempted from carrying a rescue boat, provided the craft meets all of the following requirements:~~

~~.5.1 the craft is arranged to allow a helpless person to be recovered from the water;~~

~~.5.2 recovery of the helpless person can be observed from the navigating bridge; and~~

~~.5.3 the craft is sufficiently manoeuvrable to close and recover persons in the worst intended conditions.~~

~~.6~~.5 notwithstanding the provisions of .4 ~~and .5~~ above, craft should carry sufficient rescue boats to ensure that, in providing for abandonment by the total number of persons the craft is certified to carry:

~~.6~~.5.1 not more than nine of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; or

~~.6~~.5.2 if the Administration is satisfied that the rescue boats are capable of towing a pair of such liferafts simultaneously, not more than 12 of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; and

~~.6~~.5.3 the craft can be evacuated within the time specified in 4.8.

.6 craft of less than 20 m in length may be exempted from carrying a rescue boat, provided the craft meets all of the following requirements:

.6.1 the craft is arranged to allow a helpless person to be recovered from the water in a horizontal or near-horizontal body position;

.6.2 recovery of the helpless person can be observed from the navigating bridge; and

.6.3 the craft is sufficiently manoeuvrable to close and recover persons in the worst intended conditions."

DRAFT AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)

Chapter 8
Life Saving Appliances and Arrangements

8.10 Survival craft and rescue boats

2 Paragraphs 8.10.1.4 to 8.10.1.6 are amended to read as follows:

"8.10.1 All craft shall carry:

…

.4 at least one rescue boat for retrieving persons from the water, but not less than one such boat on each side when the craft is certified to carry more than 450 passengers;

~~.5 craft of less than 30 m in length may be exempted from carrying a rescue boat, provided the craft meets all of the following requirements:~~

~~.5.1 the craft is arranged to allow a helpless person to be recovered from the water;~~

~~.5.2 recovery of the helpless person can be observed from the navigating bridge; and~~

~~.5.3 the craft is sufficiently manoeuvrable to close in and recover persons in the worst intended conditions.~~

~~.6~~.5 notwithstanding the provisions of .4 ~~and .5~~ above, craft shall carry sufficient rescue boats to ensure that, in providing for abandonment by the total number of persons the craft is certified to carry:

~~.6~~.5.1 not more than nine of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; or

~~.6~~.5.2 if the Administration is satisfied that the rescue boats are capable of towing a pair of such liferafts simultaneously, not more than 12 of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; and

~~.6~~.5.3 the craft can be evacuated within the time specified in 4.8.

.6 craft of less than 30 m in length may be exempted from carrying a rescue boat, provided the craft meets all of the following requirements:

.6.1 the craft is arranged to allow a helpless person to be recovered from the water in a horizontal or near-horizontal body position;

.6.2 recovery of the helpless person can be observed from the navigating bridge; and

.6.3 the craft is sufficiently manoeuvrable to close in and recover persons in the worst intended conditions."

APPENDIX 1[1]

CHECK/MONITORING SHEET FOR THE PROCESSING OF AMENDMENTS TO THE CONVENTION AND RELATED MANDATORY INSTRUMENTS (PROPOSAL/DEVELOPMENT) MSC.1/Circ.1500

Part I – Submitter of proposal

Part III – Process monitoring to be completed during the work process at the Sub-Committee and checked as part of the final approval process by the Committee[2]

1	The Sub-Committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one Sub-Committee and for which the timing of relevant Sub-Committees meetings and exchanges of the result of consideration needed to be carefully examined.	YES
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	YES
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the Sub-Committee offers the Committee an alternative method of addressing the problem raised by the proposal.	YES
4	Due attention has been paid to the *Interim guidelines for the systematic application of the grandfather clauses* (MSC/Circ.765-MEPC/Circ.315).	YES
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	YES
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	YES
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	YES
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	N/A
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	YES

1 This appendix is reproduced in English only.

2 Part III should be completed by the drafting/working group that prepared the draft text using "yes", "no" or "not applicable".

10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	N/A
11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	YES
12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	YES
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	YES
14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	YES
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	YES
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	YES
17	The related record format has been completed or updated, as appropriate.	YES

APPENDIX 2[1]

RECORDS FOR REGULATORY DEVELOPMENT

The following records should be created and kept updated for each regulatory development.

The records can be completed by providing references to paragraphs of related documents containing the relevant information, proposals, discussions and decisions.

1	**Title (number and title of regulation(s))**
	1994 and 2000 HSC Codes Chapter 8 – Life Saving Appliances and Arrangements,
2	**Origin of the requirement (original proposal document)**
	DE 57/23/1 (IACS)
3	**Main reason for the development (extract from the proposal document)**
	The exemption provision in paragraph 8.10.1.5 for craft of less than 30 m in length appears inconsistent with the text of paragraph 8.10.1.6. The latter text appears to "negate" the exemption provisions in paragraph 8.10.1.5, as paragraph 8.10.1.6 starts with "notwithstanding the provisions of .4 and .5" and then goes on to require a sufficient number of rescue boats.
4	**Related output**
	No related output
5	**History of the discussion (approval of work programmes, sessions of sub-committees, including CG/DG/WG arrangements)**
	DE 57 decided to defer consideration of document DE 57/23/1 (IACS), which sought clarification regarding the application of paragraphs 8.10.1.4 to 8.10.1.6 of the 2000 HSC Code concerning the exemption from the requirement to carry a rescue boat for HSC of less than 30 m in length, to SSE 1 (DE 57/25, paragraph 23.2.3). **SSE 1** considered document DE 57/23/1 (IACS) and, inter alia, noted the view expressed by the Netherlands that an alternative solution should be available (SSE 1/21, paragraph 20.12). **MSC 94** having considered document MSC 94/8/1 (IACS) and further discussing the matter of application of paragraphs 8.10.1.4 to 8.10.1.6 of the 2000 HSC Code, instructed SSE 2 to prepare draft amendments to both the 1994 and 2000 HSC Codes for further consideration at MSC 95. Member Governments and international organizations were invited to submit comments and proposals to SSE 2 (MSC 94/21, paragraphs 8.16 and 8.17). **MSC 95** having noted that no action had been taken at SSE 2 on preparing amendments to the 1994 and 2000 HSC Code, invited interested Member Governments and international organizations to submit comments and proposals to SSE 3 (MSC 95/22, paragraph 12.14).
6	**Impact on other instruments (e.g. codes, performance standards, guidance circulars, certificates/records format, etc.)**

[1] This appendix is reproduced in English only.

	None
7	**Technical background**
7.1	**Scope and objective (to cross check with items 4 and 5 in part II of the checklist)**
	The 1994 and 2000 HSC Codes. High-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code) in length may be exempted from carrying a rescue boat
7.2	**Technical/operational background and rationale (summary of FSA study, etc., if available or, engineering challenge posed, etc.)**
	To provide clarification regarding the application of the paragraphs of the 1994 and 2000 HSC Codes concerning the exemption from the requirement to carry a rescue boat for High-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code)
7.3	**Source/derivation of requirement (non-mandatory instrument, industry standard, national/regional requirement)**
	The International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code), adopted by resolution MSC.36(63), as amended. The International Code of Safety for High-Speed Craft, 2000 (2000 HSC Code) adopted by resolution MSC.97(73), as amended.
7.4	**Short summary of requirement (what is the new requirement – in short and lay terms)**
	New texts to chapter 8 – Life Saving Appliances and Arrangements, in order to clarify the conditions under which a rescue boat may not be provided on a high-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code). The new text also clarifies that a person can be rescued from the water in a horizontal or near-horizontal body position (see MSC.1/Circ.1185/Rev.1).
7.5	**Points of discussions (controversial points and conclusion)**
	High-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code) may be exempted from carrying a rescue boat, provided the requirements of paragraph 8.10.1.5 are fulfilled, due to their size and general arrangements.

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ANNEX 14

DRAFT MSC CIRCULAR

EARLY IMPLEMENTATION OF THE AMENDMENTS TO THE 1994 AND 2000 HSC CODES

1 The Maritime Safety Committee, at its [ninety-eight session (…)], adopted, by resolution [MSC.…(…)], the amendments to paragraphs 8.10.1.4 to 8.10.1.6 of the 1994 and 2000 HSC Codes, concerning the exemption from carrying a rescue boat on board high-speed craft of less than 30 m (2000 HSC Code) and 20 m (1994 HSC Code) in length.

2 In adopting the aforementioned amendments, the Committee, taking into account the four-year cycle of entering into force the amendments to mandatory instruments, agreed to the recommendation by the Sub-Committee on Ship Systems and Equipment, at its third session (14 to 18 March 2016), that parties concerned should be encouraged to implement the amendments to paragraphs 8.10.1.4 to 8.10.1.6 of the 1994 and 2000 HSC Codes at the earliest possible opportunity.

3 Member Governments are invited to take account of this circular and bring it to the attention of all parties concerned.