INTERNATIONAL MARITIME ORGANIZATION

IMO

E

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT
52nd session
Agenda item 21

DE 52/21
14 April 2009
Original: ENGLISH

REPORT TO THE MARITIME SAFETY COMMITTEE

Table of contents

LIST OF ANNEXES

1 GENERAL

Introduction

1.1 The Sub-Committee held its fifty-second session from 16 to 20 March 2009 under the chairmanship of Mrs. Anneliese Jost (Germany). The Vice-Chairman, Mrs. Xiang Yang (China), was also present.

1.2 The session was attended by delegations from the following Member Governments:

ALGERIA
ANGOLA
ANTIGUA AND BARBUDA
ARGENTINA
AUSTRALIA
BAHAMAS
BRAZIL
CANADA
CHILE
CHINA
COLOMBIA
COOK ISLANDS
CROATIA
CUBA
CYPRUS
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA
DENMARK
ECUADOR
EGYPT
FINLAND
FRANCE
GERMANY
GHANA
GREECE
ICELAND
INDONESIA
IRAN (ISLAMIC REPUBLIC OF)
ISRAEL
ITALY
JAPAN
KENYA
LATVIA
LIBERIA
MALAYSIA
MALTA
MARSHALL ISLANDS
MEXICO
NETHERLANDS
NIGERIA
NORWAY
PANAMA
PERU
PHILIPPINES
POLAND
REPUBLIC OF KOREA
ROMANIA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SOUTH AFRICA
SPAIN
SWEDEN
SYRIAN ARAB REPUBLIC
THAILAND
TURKEY
TUVALU
UKRAINE
UNITED KINGDOM
UNITED STATES
URUGUAY
VANUATU
VENEZUELA (BOLIVARIAN REPUBLIC OF)

and the following Associate Member of IMO:

HONG KONG, CHINA

1.3 The session was also attended by representatives from the following United Nations and specialized agency:

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

by observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)
MARITIME ORGANIZATION FOR WEST AND CENTRAL AFRICA (MOWCA)

and by observers from the following non-governmental organizations in consultative status:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
INTERNATIONAL RADIO-MARITIME COMMITTEE (CIRM)
BIMCO
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL MARITIME PILOTS' ASSOCIATION (IMPA)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS (IADC)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
INTERNATIONAL LIFESAVING APPLIANCES MANUFACTURERS' ASSOCIATION (ILAMA)
COMMUNITY OF EUROPEAN SHIPYARDS' ASSOCIATIONS (CESA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS LIMITED (SIGTTO)
INTERNATIONAL MARITIME RESCUE FEDERATION (IMRF)
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMarEST)
INTERNATIONAL SAILING FEDERATION (ISAF)
THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
THE ROYAL INSTITUTION OF NAVAL ARCHITECTS (RINA)
INTERNATIONAL FUND FOR ANIMAL WELFARE (IFAW)
INTERNATIONAL PAINT AND PRINTING INK COUNCIL (IPPIC)

Opening address of the Secretary-General

1.4 The Secretary-General delivered his opening address, the full text of which is reproduced in document DE 52/INF.11.

Chairman's remarks

1.5 The Chairman, in thanking the Secretary-General, stated that the Secretary-General's words of encouragement as well as his advice and requests would be given every consideration by the Sub-Committee.

Adoption of the agenda

1.6 The Sub-Committee adopted the agenda for the fifty-second session (DE 52/1) and agreed to be guided in its work, in general, by the annotations contained in document DE 52/1/1 and by the proposals of the Chairman for the working/drafting group arrangements for the session (DE 52/1/2). The agenda, as adopted, with the list of documents considered under each agenda item, is set out in document DE 52/INF.12.

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by STW 39, COMSAR 12, FSI 16, MSC 84, NAV 54, SLF 51, MEPC 57, MEPC 58 and MSC 85, as reported in documents DE 52/2, DE 52/2/1 and DE 52/2/2, and took them into account in its deliberations when dealing with relevant agenda items.

2.2 The Sub-Committee further noted information by the Secretariat with regard to the outcome of STW 40, FP 53 and BLG 13, as follows:

.1 STW 40 agreed that requirements should be developed to ensure that officers are adequately trained for navigating in ice-covered waters (see paragraph 9.2);

.2 FP 53:

.2.1 reviewed, as requested, chapter 9 (Fire safety) and also briefly chapter 13 (Helicopter facilities) of the MODU Code (FP 53/WP.6), whereby the outcome has been considered under agenda item 5 (see paragraph 5.2.5); and

.2.2 concerning measures to prevent explosions on oil and chemical tankers transporting low-flashpoint cargoes, agreed that new oil tankers of below 20,000 tonnes deadweight should be fitted with inert gas systems and that the need for the application of a lower size limit should be further discussed; that requirements should be developed for the installation of inert gas systems on new chemical tankers; and, recognizing that further intensive debate on the issue was necessary, invited the Committee to extend the target completion date of the item to 2011; and

.3 BLG 13:

.3.1 agreed to draft amendments to MARPOL Annex I on Special requirements for the use or carriage of oils in the Antarctic area, for submission to MEPC 59 for approval with a view to adoption (see paragraph 9.3);

.3.2 had no comments regarding the draft revised Code on Alarms and Indicators (see paragraph 4.2); and

.3.3 finalized a draft MSC resolution on Interim Guidelines on safety for natural gas-fuelled engine installations in ships, for submission to MSC 86 for adoption; approved a work plan, scope and framework for the development of the International Code of Safety for Gas-fuelled Ships (IGF Code); and established a correspondence group to develop framework, structure and functional requirements for the IGF Code.

Application of the Committees' Guidelines

2.3 The Sub-Committee noted that MSC 84, having considered the report of the Chairmen's meeting (MSC 84/WP.10), had noted that the Chairmen had reiterated the recommendations of their last meeting, agreed by MSC 83 and MEPC 57, namely that intersessional working groups and technical groups should not be held at the same time as Committee or sub-committee meetings and that splinter groups of a working group, if established, should meet outside normal working hours.

2.4 MSC 84 further noted the recommendation of the Chairmen's meeting that the agenda management procedures specified in the Committees' Guidelines should be strictly adhered to.

3 AMENDMENTS TO RESOLUTION A.744(18)

3.1 The Sub-Committee noted that MSC 84 had adopted amendments to the Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers (resolution A.744(18), as amended) (ESP Guidelines) prepared at DE 50, including a new part B (Survey Guidelines for double-skin bulk carriers) in Annex A (Guidelines on the enhanced programme of inspections during surveys of bulk carriers), which are expected to enter into force on 1 January 2010.

3.2 The Sub-Committee also noted that MSC 84, in the context of adopting the above amendments to the ESP Guidelines, had endorsed a recommendation of the Drafting Group on Amendments to Mandatory Instruments that, when considering further amendments to the Guidelines, the Sub-Committee should take into account:

.1 the inclusion, in paragraph 5.6.2 of the Guidelines, of the words "or an appropriately qualified representative appointed by the master or company";

.2 that, in paragraph 1.2.6 of the ESP Guidelines, there is no real definition of the term "transverse section"; and

.3 that, in paragraph 1.2.10 of the ESP Guidelines, the definition of the term "a corrosion prevention system" includes some requirements for soft coatings, and there is a linkage between parts of the requirements therein and requirements in paragraph 5.3. Therefore, these requirements should be located in a more suitable place in the text.

3.3 The Sub-Committee also noted that the new consolidated publication of the ESP Guidelines, incorporating all amendments adopted since the previous publication had been issued, was now available.

3.4 The Sub-Committee recalled that DE 51 had established a correspondence group under the coordination of Germany and instructed it to prepare amendments to the ESP Guidelines in order to harmonize the provisions for single-side skin and double-side skin bulk carriers, to harmonize the provisions for double-hull and single-hull oil tankers with the IACS Z10 series and to permit the master or a representative nominated by the master or company to attend the survey planning meeting.

Report of the correspondence group

3.5 In considering the report of the correspondence group (DE 52/3), the Sub-Committee noted that the group did not develop the draft amendments to the ESP Guidelines as instructed since there was no agreement in the group on how the text should be arranged, i.e. a more streamlined and, thus, shorter version, whereby one basic part would be applicable to all ships falling under the Guidelines and other parts dealing with the specifics of the different ship types, or a structure as close to the IACS UR Z10 series as possible.

3.6 Following discussion of the proposals by the correspondence group, the Sub-Committee, subsequently, agreed that the structure of the ESP Guidelines should be aligned as closely as possible with the IACS UR Z10 series in order to keep them simple and user friendly.

Re-establishment of the correspondence group

3.7 The Sub-Committee re-established the correspondence group under the coordination of Germany* and, having decided that the group should start its work only after the deadline for submission of bulky documents to DE 53, i.e. 20 November 2009, instructed it, taking into accounts comments, proposals and decisions made in plenary, to:

.1 harmonize Part A of Annex A of the Guidelines (single-side skin bulk carriers) with the newly developed Part B (double-side skin bulk carriers) of Annex A;

.2 review Annex B of the Guidelines (Parts A and B, for double-hull and single-hull oil tankers) to harmonize the relevant provisions with the IACS UR Z10 series;

.3 prepare amendments to the Guidelines to permit the master or a representative nominated by the master or company to attend the survey planning meeting (DE 51/3/1);

.4 consider the recommendations of MSC 84, referred to in paragraph 3.2 of document DE 52/21, and prepare relevant amendments to the Guidelines; and

.5 submit a report to DE 54.

Extension of the target completion date

3.8 In view of the above developments, the Sub-Committee invited the Committee to extend the target completion date for the item to 2010.

---

* **Coordinator:**
Mr. Stephan P. Assheuer
Naval Architect
Germanischer Lloyd
Vorsetzen 35
20459 Hamburg
Germany
Tel: +49 40 3614 9455
E-mail: ash@gl-group.com

4 REVISION OF THE CODE ON ALARMS AND INDICATORS

General

4.1 The Sub-Committee recalled that DE 51 had postponed the final consideration of the draft revised Code on Alarms and Indicators to this session and requested IACS, which had prepared the original draft of the revised Code (DE 50/10/2/Rev.1), to finalize it, including changing the references to the 1989 MODU Code to refer to the relevant paragraphs of the draft revised MODU Code (see paragraph 5.3) and incorporating the outcome of DSC 12 and FP 52, and to submit the final draft to this session.

4.2 The Sub-Committee noted that BLG 13 had had no comments regarding the draft revised Code on Alarms and Indicators (see paragraph 2.2.3.2) and had invited interested delegations and observers to provide comments, relevant to the work of the BLG Sub-Committee, directly to DE 52.

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

.1 DE 52/4 (Secretariat), containing the text of a draft Assembly resolution on adoption of the Code on Alarms and Indicators, prepared by the Secretariat in order to facilitate the work of the Sub-Committee;

.2 DE 52/4/1 (Germany), informing the Sub-Committee of the progress made by the NAV Sub-Committee Correspondence Group on Integrated Bridge Systems (IBS) on the development of performance standards for bridge alert management in order to harmonize the draft performance standards with the draft Code on Alarms and Indicators regarding issues like definition of priorities, presentation of alerts and handling of the states of alerts;

.3 DE 52/4/2 (IACS), containing the text of the draft revised Code on Alarms and Indicators, prepared by IACS incorporating the comments of other sub-committees thereon, amendments to the draft revised MODU Code, SOLAS amendments, etc., and proposing, in particular, to change the name of the Code to "Code on Alerts and Indicators", taking into account that the term "alert" is considered to have an expansive meaning which includes "alarm"; and

.4 DE 52/4/3 (Germany), supporting the proposal by IACS for the revision of the Code on Alarms and Indicators (DE 52/4/2, annex) in principle and including specific comments on chapters 4, 5, 6, 7 and 10 thereof.

4.4 In the ensuing discussion, the Sub-Committee noted views that the requirements of the Code needed to be precise, that they should not lead to an overload of the crew with excessive information and that they should be consistent with the Code on Noise Levels on board Ships and relevant IEC standards; as well as a number of concrete proposals for modifications to the draft revised Code. It was further suggested that the Sub-Committee should keep in mind the work of the FP Sub-Committee on safety centres and that that Sub-Committee should be kept informed of the outcome of this session.

Establishment of a drafting group

4.5 The Sub-Committee established a drafting group and instructed it to finalize the draft Code on Alerts and Indicators and the associated draft Assembly resolution, on the basis of documents DE 52/4/2 and DE 52/4, taking into account documents DE 52/4/1 and DE 52/4/3 and comments and proposals made in plenary.

Report of the drafting group

4.6 Having considered the report of the drafting group (DE 52/WP.4), the Sub-Committee approved it in general and took action as described in the following paragraphs.

4.7 The Sub-Committee agreed to insert a definition for the term "signal" in the draft revised Code, defining it as an audible indication, forming a counterpart to the existing definition of "indicator" as a visual indication.

4.8 The Sub-Committee noted the discussion in the group on alerts in passenger ship safety centres and the proposal of the group to insert a reference to safety centres on passenger ships in paragraph 9.4.1 and in the tables of section 10 of the draft revised Code; and also the suggestion that, in the future, a new table should be developed for section 11, addressing alerts in safety centres on passenger ships.

4.9 The Sub-Committee took note of concerns on a possible omission of alarms and agreed to a new text of paragraph 10.1 of the draft revised Code so as to ensure that no information is concealed from the personnel responsible for the safe operation of the ship.

4.10 In finalizing the draft revised Code, with regard to alerts and indicators contained in the MODU Code, the Sub-Committee noted that some consequential editorial modifications are needed following the expected adoption of the MODU Code at the forthcoming session of the Assembly and requested the Secretariat to act accordingly.

4.11 Subsequently, the Sub-Committee agreed to the draft Assembly resolution on Adoption of the Code on Alerts and Indicators, 2009, as set out in annex 1, for submission to MSC 86 and MEPC 59 for approval and to the twenty-sixth session of the Assembly for adoption.

Completion of the work programme item

4.12 Since work on the item had been completed, the Sub-Committee invited the Committee to delete it from the work programme.

5 AMENDMENTS TO THE MODU CODE

5.1 The Sub-Committee recalled that DE 51 had, in principle, agreed to the draft revised MODU Code prepared by the working group (DE 51/WP.4) and had referred the parts related to fire safety and radiocommunications to FP 53 and COMSAR 12 for review, as appropriate. The Secretariat had been requested to prepare the consolidated text of the draft revised Code and an associated draft Assembly resolution, for consideration at this session.

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

.1 DE 52/5 (Secretariat), containing the consolidated text of the draft revised MODU Code (annex 1) and an associated draft Assembly resolution (annex 2), prepared by the Secretariat following the request of DE 51;

.2 DE 52/5/1 (United States), proposing modifications to footnote 25 of paragraph 6.6.3 and to paragraph 6.6.8.2 of the draft revised MODU Code, as shown in the annex to their document, aimed at reducing redundant references to IEC standards;

.3 DE 52/5/2 (China), proposing modifications to chapter 6 (Machinery and electrical installations in hazardous areas for all types of units) of the draft revised MODU Code regarding hazardous areas, in particular concerning sections 6.1 to 6.4 thereof, as shown in the annex to their document;

.4 DE 52/5/3 (IADC), proposing modifications to sections 1.3 (Definitions), 2.11 (Anti-fouling systems) and 3.7 (Freeboard) of the draft revised MODU Code, as shown in the annex to their document; and

.5 DE 52/5/4 (Secretariat), reporting on the outcome of COMSAR 12 and FP 53 regarding the parts of the Code that had been referred to these Sub-Committees for review. The Sub-Committee noted in this connection that the outcome of COMSAR 12, which took place in April 2008, had already been incorporated in the text of the draft revised MODU Code as contained in the aforementioned document DE 52/5.

Draft revised MODU Code

5.3 The Sub-Committee considered the text of the draft revised MODU Code as annexed to document DE 52/5, taking into account the modifications proposed in the above documents and comments and proposals made in plenary, and, requesting the Secretariat to effect the necessary changes to the draft revised Code as contained in document DE 52/5, agreed to the draft Assembly resolution on Adoption of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009, as set out in annex 2, for submission to MSC 86 for approval and to the twenty-sixth session of the Assembly for adoption.

Developments in the International Civil Aviation Organization (ICAO) regarding heliports

5.4 The Sub-Committee noted that the ICAO Helicopter Design Working Group was currently working on further amendments to the ICAO Convention, Annex 14 (Aerodromes), Volume II (Heliports), and that these amendments, which might have an impact on the helicopter provisions in the MODU Code, as well as on the relevant requirements in SOLAS regulations II-2/18 (Helicopter facilities) and III/28 (Helicopter landing and pick-up areas), are expected to be adopted by ICAO in 2011.

5.5 Nevertheless, the Sub-Committee, having agreed to submit the draft 2009 MODU Code to A 26 for adoption, at the same time, invited the Committee to include a new item on "Revision of the provisions for helicopter facilities in SOLAS and the MODU Code" in the Sub-Committee's work programme, in cooperation with the FP Sub-Committee, so that the item could be included in future agendas of the Sub-Committees once ICAO has finalized the revision of Annex 14 of the ICAO Convention. A justification for the new work programme item is set out in annex 3.

Completion of the work programme item

5.6 Since work on the item had been completed, the Sub-Committee invited the Committee to delete it from the work programme.

6 MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

6.1 The Sub-Committee noted that MSC 84 had approved circular MSC.1/Circ.1277 on Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear and that MSC 85 had adopted, by resolution MSC.272(85), amendments to paragraph 4.7.2 of the LSA Code concerning the design of free-fall lifeboat seats and seating space, prepared by DE 51.

6.2 The Sub-Committee recalled that DE 51 had re-established the LSA Correspondence Group under the coordination of the United States and instructed it to further consider the "fail safe" concept and the use of fall preventer devices and finalize relevant amendments to the LSA Code and the Revised recommendation on testing of LSA; to develop a definition for "on-load release hooks of poor and unstable design", explore criteria to determine poor and unstable design of such hooks and consider a time frame for the replacement of such hooks; to review MSC.1/Circ.1206 for needed amendments pursuant to the new Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear (MSC.1/Circ.1277); and to further consider the definition of "unfavourable conditions of trim and list", in particular the possible need for differing definitions to be used for different types of life-saving appliances.

Lifeboat manufacturers

6.3 The Sub-Committee noted information on lifeboat manufacturers provided by ILAMA (DE 52/6), as requested by the Sub-Committee, and invited ILAMA to regularly update the information which is available on the ILAMA website at www.ilama.org.

Lifeboat on-load release hooks

6.4 The Sub-Committee considered the part of the report of the correspondence group dealing with the matter (DE 52/6/1, paragraphs 4 to 25) and noted that the group, having considered the "fail safe" concept, had clarified that it is intended to address the situation where the operating mechanism (lever, cable and cam crank) serves not only to release the boat when required, but also to maintain the hook closed at all other times. In this respect, the Sub-Committee noted several options for amendments to the LSA Code and SOLAS chapter III as set out in annexes 1 and 2 to the group's report and also that the group had an intensive discussion on the evaluation of currently installed release hooks from the point of view of "poor and unstable design", with a view to their replacement.

6.5 The Sub-Committee considered the three options for amendments to the LSA Code regarding the fail safe concept prepared by the group (annex 1 to document DE 52/6/1), noting that any of the options would include a review of all hooks on existing ships to determine whether they comply with the option in question and, consequently, a possible retrofitting of hooks; and also the two options for amendments to SOLAS chapter III regarding hooks of poor design prepared by the group (annex 2 to document DE 52/6/1).

6.6 In the course of the ensuing discussion, delegations expressed the view that uniform requirements for on-load release hooks were necessary since too many different designs with different operating principles are currently in existence and also that the operation and control of such hooks should be harmonized as a means to reduce the risk of casualties. It was further mentioned that accidents could also occur after the replacement of hooks, if the replacing was not done correctly, and that guidance might be necessary in this regard.

6.7 Concerning the options for amendments to the LSA Code and SOLAS chapter III developed by the group (see paragraph 6.5), the Sub-Committee concluded that these options were not mutually exclusive but should be combined in order to cover all related issues, and instructed the LSA Working Group to further consider them with a view to finalizing the relevant amendments to the LSA Code and SOLAS chapter III at this session, taking into account that hooks with a good safety record should continue to be used and that any requirements for retrofitting should be driven by the determination of what constituted safe and unsafe hooks.

6.8 The Sub-Committee also considered the following documents:

.1 DE 52/6/3 (ILAMA), providing information on the principles of an FMEA (Failure Mode and Effect Analysis) for lifeboat on-load release hooks and suggesting that FMEA should be introduced as a requirement for any new hooks being developed;

.2 DE 52/6/5 (United Kingdom, ICS, INTERTANKO, OCIMF, IMCA, P&I Clubs, IPTA, IFSMA, ITF, BIMCO), submitting on behalf of the Industry Lifeboat Group comments on the report of the correspondence group and proposing functional requirements for a safe hook design and attaching relevant amendments to the Revised recommendation on testing of LSA;

.3 DE 52/6/9 (OCIMF), proposing an amendment to chapter IV (Survival craft) of the LSA Code to provide for the approval and certification of the lifeboat, release mechanism and launching and embarkation appliances as an integrated system, which might also lead to consequential amendments to the Revised recommendation on testing of LSA; and

.4 DE 52/INF.5 (Japan), referring to the agreement of the Sub-Committee, in principle, that "fail safe hooks" should be defined for the purpose of the improvement of safety of future on-load release hooks, and reporting on the results of a new test procedure for evaluating the safety of hooks.

6.9 Following discussion, the Sub-Committee referred documents DE 52/6/3, DE 52/6/9, which was supported in principle, and DE 52/INF.5 to the LSA Working Group for further consideration in the course of preparation of the amendments to the LSA Code and SOLAS chapter III; and, with regard to document DE 52/6/5, instructed the group to further consider the proposed amendments to the Revised recommendation on testing of LSA with a view to preparing such amendments.

Fall preventer devices (FPDs)

6.10 The Sub-Committee considered the part of the report of the correspondence group dealing with the matter (DE 52/6/1, paragraphs 26 to 28) and noted that the group had generally agreed that the use of FPDs should be pursued as an interim risk management measure while existing hooks are evaluated and replaced as necessary, and had developed draft Guidelines for their use, as set out in annex 3 to the group's report.

6.11 In this connection, the Sub-Committee also considered documents DE 52/6/6 and DE 52/6/7, wherein the United Kingdom, with the assistance of the Industry Lifeboat Group, had produced Guidelines for the fitting and use of fall preventer devices, attached at annex to document DE 52/6/6, and Guidelines for the type approval, modification, replacement, testing, installation and survey when fitting fall preventer devices, attached at annex to document DE 52/6/7.

6.12 During the ensuing discussion, the Sub-Committee noted, *inter alia*, the following views:

.1 FPDs had a role to play as an interim measure to make lifeboat launches safer, pending the finalization of mandatory requirements to ensure the use of fail safe lifeboat on-load release hooks;

.2 the introduction of type approval requirements for FPDs should be carefully considered, since they were only intended as an interim measure;

.3 the inclusion of relevant provisions in the ISM Code documentation should be considered; and

.4 certain hook designs may facilitate the use of pins as FPDs and this should also be considered.

6.13 Noting the support for the development of relevant guidance, the Sub-Committee instructed the LSA Working Group to consider further the FPD guidelines developed by the correspondence group (DE 52/6/1, annex 3), together with the two related guidelines proposed in documents DE 52/6/6 and DE 52/6/7.

Authorization of independent service providers to service lifeboats

6.14 The Sub-Committee considered the part of the report of the correspondence group dealing with the matter (DE 52/6/1, paragraphs 29 to 32) and noted that the group had developed draft amendments to annex 1 (Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear) of MSC.1/Circ.1206 on Measures to prevent accidents with lifeboats, as set out in annex 4 to the group's report.

6.15 In this connection, the Sub-Committee also considered document MSC 85/7/2 (IACS), referred to it by MSC 85, proposing revisions to SOLAS chapter III to ensure that there are mandatory provisions to allow for life-saving equipment to be serviced and maintained in full compliance with SOLAS, following the approval of MSC.1/Circ.1277 on Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear. IACS clarified, in this context, that the proposed amendments were indicative and that additions to MSC.1/Circ.1277 might be sufficient for the purpose.

6.16 Following discussion, the Sub-Committee instructed the LSA Working Group to further consider and finalize the amendments to the Guidelines, developed by the correspondence group (DE 52/6/1, annex 4), taking into account the concerns expressed by IACS in document MSC 85/7/2.

Definition of "unfavourable conditions of trim and list"

6.17 The Sub-Committee considered the part of the report of the correspondence group dealing with the matter (DE 52/6/1, paragraphs 33 to 35) and noted that the group had considered several suggestions, but had decided that a final decision on how to handle the issue should await consideration of any specific proposals submitted to DE 52.

6.18 In this connection, the Sub-Committee considered document DE 52/6/2 (Germany), proposing to use the same restriction in all regulations on minimum or maximum deployment heights of life-saving appliances, combined with individual provisions in each regulation regarding the relevant floating condition of the ship (lightest seagoing or fully loaded). According to the submission, the determination of maximum heights should be based on the lightest seagoing condition, taking into account any additional immersion when the weatherdeck at the opposite end of the ship was assumed to be submerged. Consequential amendments to SOLAS chapter III and the LSA Code were attached at annex to the document.

6.19 Following discussion, in the course of which several delegations expressed concerns regarding the proposal made by Germany, the Sub-Committee instructed the LSA Working Group, time permitting, to consider the proposed definition further.

Lifeboat safety awareness

6.20 The Sub-Committee, in considering document DE 52/6/4 (ILAMA), presenting a lifeboat safety poster developed by ILAMA, intended to enhance the safety of seafarers by making them aware of the dangers of launching a lifeboat and also requesting that the document be brought to the attention of the STW Sub-Committee, expressed some doubts regarding the effectiveness of the poster, but agreed that it should be brought to the attention of the STW Sub-Committee and requested the Secretariat to act accordingly.

Interpretation of SOLAS regulation III/19

6.21 The Sub-Committee considered document DE 52/6/8 (Dominica, Malta, New Zealand, Philippines, South Africa, Sweden, BIMCO, ICS, IFSMA, INTERCARGO, INTERTANKO, ITF, OCIMF), expressing concerns with regard to authorities that interpret SOLAS regulation III/19.3.3.3 to require ships' crew to be on board lifeboats during launching in case of abandon ship drills. In their view, the master had full discretion for deciding the conditions in which such drills are undertaken, noting that SOLAS explicitly does not require ships' crew to be on board lifeboats when launched during abandon ship drills. A proposal for guidance in the form of an MSC circular was attached at annex to the document.

6.22 Having supported the proposal, the Sub-Committee agreed to a draft MSC circular, on Clarification of SOLAS regulation III/19, set out in annex 4, for submission to MSC 86 for approval, and requested the Secretariat to bring the outcome to the attention of the FSI Sub-Committee.

6.23 The delegation of Vanuatu, in agreeing, in principle, with the content of document DE 52/6/8, expressed their concerns over paragraph 2 of the draft MSC circular, as, in their view, the 3-month period during which each lifeboat is required to be launched and manoeuvred in the water, during each abandon ship drill, is not realistic as it mainly depends on the sea condition. MODUs and similar offshore units carried out their work for extended periods of time in environments that are rarely supportive of safe retrieval operations of survival craft. The delegation suggested that SOLAS regulation III/19.3.3.3 should be clarified to give due regard to all safety aspects and address the issue of sea conditions required for the safe retrieval of a survival craft. In their view, such clarification was necessary as offshore units, in general, could be currently in breach of SOLAS regulation III/19.3.3.3 for the above reasons.

Survival craft best practice guidance

6.24 As referred to it by MSC 85, the Sub-Committee considered document MSC 85/INF.5 (OCIMF, INTERTANKO, SIGTTO), informing about a best practice booklet titled "Survival Craft, A Seafarers Guide" which had been developed by the submitters to address concerns regarding continuing incidents involving survival craft resulting in injury or fatality of seafarers, and copies of which had been distributed during the meeting and, having noted the information provided in the document, thanked the sponsoring organizations for this very useful initiative.

Establishment of the LSA Working Group

6.25 As agreed at DE 51, the Sub-Committee established the LSA Working Group under the coordination of Mr. Kurt Heinz (United States), and instructed it, taking into account comments, proposals and decisions made in plenary, to:

.1 concerning requirements for on-load release hooks:

.1 finalize draft amendments to SOLAS chapter III and the LSA Code on the basis of the report of the correspondence group (DE 52/6/1, annexes 1 and 2) and taking into account documents DE 52/6/3, DE 52/6/9 and DE 52/INF.5; and

.2 consider the proposed amendments to the Revised recommendation on testing of LSA (resolution MSC.81(70)) in document DE 52/6/5 and prepare relevant draft amendments, as appropriate;

.2 further consider, with a view to finalization, draft Guidelines for the fitting and use of fall preventer devices and Guidelines for the type approval, modification, replacement, testing, installation and survey when fitting fall preventer devices, taking into account documents DE 52/6/1 (annex 3), DE 52/6/6 and DE 52/6/7;

.3 finalize draft amendments to MSC.1/Circ.1206 (annex 1) and MSC.1/Circ.1277, as appropriate, on the basis of the report of the correspondence group (DE 52/6/1, annex 4), and taking into account document MSC 85/7/2 (IACS); and

.4 if time permits, finalize draft amendments to SOLAS chapter III and the LSA Code concerning the definition of "unfavourable conditions of trim and list", based on document DE 52/6/2.

Report of the LSA Working Group

6.26 Having considered the report of the LSA Working Group (DE 52/WP.1), the Sub-Committee approved it in general and took action as outlined in the following paragraphs.

On-load release hooks

Poor and unstable design

6.27 The Sub-Committee noted that the group had considered criteria for safer lifeboat on-load release hooks, which would require existing hooks of "poor and unstable design" to be replaced, i.e. hooks that transfer loads to the release cables, hooks which have locking devices that may turn to open due to forces from the hook load, and hooks which lack automatic resetting of hydrostatic interlock devices, if fitted, upon lifting from the water; but not exclude existing hooks which "are of a safe design/have a good safety record".

New requirements for lifeboat on-load release mechanisms

6.28 The Sub-Committee noted that the group had considered new requirements for new lifeboat on-load release mechanisms, in addition to requirements based on the criteria discussed above (see paragraph 6.27), and developed suitable draft amendments to the LSA Code based on the following elements: durable corrosion resistant construction materials; safe operation not reliant on maintenance of critical manufacturing tolerances; and provision of means to enable release only at a safe height (on or immediately above the water).

6.29 Having noted the provisional list of areas for potential improvement of on-load release mechanisms developed by the Industry Lifeboat Group (ILG) (DE 52/6/5), the Sub-Committee endorsed the group's recommendation that the elements relating to improvement and

standardization of the layout of lifeboat on-load release mechanisms and control arrangements should be further considered as a matter of urgency, taking into account the human element, in coordination with the work programme item on "Development of a new framework of requirements for life-saving appliances". In this regard, the Sub-Committee further noted that the group had agreed that a holistic approach to approval of lifeboats and their launching appliances as an integrated system represented a desirable overall goal to be pursued further.

Amendments to the LSA Code

6.30 Subsequently, the Sub-Committee agreed to draft amendments to the LSA Code, set out in annex 5, concerning new requirements for on-load release mechanisms and the assumed weight of persons to be applied to liferafts, for submission to MSC 86 for approval and subsequent adoption.

6.31 The delegation of China, referring to the requirement for an up to 45º rotation of the cam in the proposed new paragraph 4.4.7.6.2.1, stated that in their view this figure was not sufficiently justified and should be kept in square brackets for a decision by MSC 86.

SOLAS amendments to replace existing lifeboat on-load release hooks of poor and unstable design

6.32 In order to effect replacement of existing lifeboat on-load release hooks of poor and unstable design (see paragraph 6.27), the Sub-Committee agreed to draft amendments to SOLAS chapter III, requiring replacement of certain existing release hooks not complying with certain key elements of the LSA Code, set out in annex 6, for submission to MSC 86 for approval and subsequent adoption.

6.33 In this connection, the Sub-Committee, recognizing that the evaluation, identification and replacement of existing "poor and unstable" release hooks would be a complex matter, including sharing of information between Administrations, possibly by means of a central database, agreed that suitable guidelines in the form of an MSC circular on Guidelines for evaluation of lifeboat on-load release mechanisms for poor and unstable characteristics should be developed at the next session.

6.34 The observer from ICS recalled their concern, raised during the initial discussion on this issue, that the amendments proposed could inadvertently demand the replacement of off-load hooks that are considered safe, believing that that concern still remained and stated that they would look further into this issue and bring their concerns to the Committee if believed still valid.

6.35 The delegation of the Bahamas pointed out that the differing terminology used for release mechanisms, i.e. "hooks", "gear", "mechanism", etc., should be harmonized and that definitions for the terms used were necessary, which should be developed by the LSA Working Group at the next session. The delegation of Japan recalled that they had submitted a document concerning Guidelines for developing operation and maintenance manuals for a lifeboat system to DE 48 (DE 48/5/1) which contained definitions that could be used for this purpose.

6.36 The delegation of the Netherlands noted that, regarding the use of FMEA, there had been as much support for the mandatory use of this instrument in evaluating on-load release hook designs as there had been opposition to it, also noting that part of the opposition had been in favour of the principle of using FMEA, but was opposed to mandating it, claiming that this instrument was not yet mature enough to be applied as a mandatory instrument. They further noted that ILAMA had been invited by the LSA Working Group to prepare a more thorough and

structured proposal for submission to the next session, with the aim of developing a future MSC circular on this subject. The delegation stated that they supported the use of FMEA as a mandatory instrument and was of the opinion that FMEA in itself was already a mature and successful instrument in other modes of transport like aviation, and was furthermore gradually acknowledged as a requirement in some IMO instruments, for instance in the HSC Code and the recently approved revised performance standards for integrated navigation systems. They were of the view that mandatory application of FMEA in evaluating on-load release hook designs should be reconsidered by the Sub-Committee at the next session, when a thorough and structured proposal on how to conduct such FMEA was expected to be agreed upon.

FPD guidelines

6.37 Having agreed that fall preventer devices (FPDs) are only an interim measure, to be used with existing on-load release hooks, pending the implementation of improved hook designs with enhanced safety features; that both locking pins and strops are allowed; and that FPDs may be used in all launching and recovery situations, i.e. drills, maintenance and emergency situations, the Sub-Committee agreed to a draft MSC circular on Guidelines for the fitting and use of fall preventer devices (FPDs), set out in annex 7, for submission to MSC 86 for approval.

6.38 In this context, the Sub-Committee noted that the delegation of Germany, supported by the delegations of France, the Netherlands and the United States, had expressed concern with regard to the use of locking pins as FPDs for purposes other than maintenance, considering that they potentially introduced new and unnecessary risks during launching procedures; and that the observer from BIMCO, supported by several other delegations, was of the view that notwithstanding the risks, the locking pins were a prudent safety measure in view of the unacceptable consequences of an inadvertent release of the lifeboat.

Amendments to MSC.1/Circ.1206

6.39 The Sub-Committee agreed to draft amendments to the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (MSC.1/Circ.1206, annexes 1 and 2) and draft circular MSC.1/Circ.1206/Rev.1, incorporating the aforementioned amendments, set out in annex 8, for submission to MSC 86 for approval.

6.40 With regard to document MSC 85/7/2 (IACS), recommending amendments to SOLAS to facilitate consistent application of the Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear (MSC.1/Circ.1277), the Sub-Committee endorsed the group's view that the matter is adequately covered by existing guidance in the circular, and agreed not to consider the proposed amendments to SOLAS further at this stage.

6.41 The observer from IACS noted that the discussion in the working group on the issues raised in document MSC 85/7/2 and by IACS in plenary before the group was established, had been limited and that IACS remained of the opinion that these concerns were not adequately covered by existing guidance in MSC.1/Circ.1277. In particular, he drew the attention of the Sub-Committee to paragraph 4 of the annex to MSC.1/Circ.1277, which stated that Administrations should take measures they considered appropriate to ensure that their national manufacturers of equipment ensured that equipment, instructions, specialized tools, spare parts, training and accessories were available to independent service providers. He advised the Sub-Committee, that IACS members, acting as recognized organizations on behalf of Administrations, did not have the authority to deal with national manufacturers on such a basis and that IACS trusted that Administrations had the necessary authority and would exercise it.

Unfavourable conditions of trim and list

6.42 The Sub-Committee noted that, due to time constraints, the group had not been able to consider the issue of the definition of "unfavourable conditions of trim and list" (see paragraph 6.19).

Establishment of a correspondence group

6.43 Having considered the above matters, the Sub-Committee established the LSA Correspondence Group, under the coordination of the United States*, with the following terms of reference (see also paragraphs 7.9 and 13.11), taking into account the comments made and decisions taken at DE 52:

.1 to develop an MSC circular on Guidelines for evaluation of lifeboat on-load release mechanisms for poor and unstable characteristics;

.2 to consider suitable draft amendments to the LSA Code and to the Revised recommendation on testing of LSA to address standardization and the human element with regard to lifeboat on-load release mechanisms and control arrangements, and test procedures in support of the new amendments to the LSA Code with regard to lifeboat on-load release mechanisms, taking into account document DE 52/6/5;

.3 to further develop guidelines for FMEA, taking into account document DE 52/6/3;

.4 to prepare draft amendments to SOLAS chapter III and the LSA Code concerning the definition of "unfavourable conditions of trim and list", taking into account document DE 52/6/2 and, in particular, comments made in plenary, regarding applicability of the definition to all types of ships; and

.5 to submit a report to DE 53.

7 COMPATIBILITY OF LIFE-SAVING APPLIANCES

General

7.1 The Sub-Committee noted that MSC 84 had approved circular MSC.1/Circ.1278 on Guidance on wearing immersion suits in totally enclosed lifeboats that MSC 85 had adopted, by resolutions MSC.272(85) and MSC.274(85), amendments to the LSA Code and to the Revised recommendation on testing of life-saving appliances, developed by DE 51 to increase the assumed weight of occupants of lifeboats on cargo ships and rescue boats and to increase the size of free-fall lifeboat seats, which are expected to enter into force on 1 July 2010.

---

* **Coordinator:**
Mr. K. Heinz
Office of Design and Engineering Standards
U.S. Coast Guard (CG-5214)
2100 Second Street, S.W.
Washington, D.C. 20593
United States of America
Tel.: +1 202 372 1395
Fax: +1 202 372 1925
E-mail: Kurt.J.Heinz@uscg.mil

7.2 The Sub-Committee recalled that DE 51 had instructed the LSA Correspondence Group to further consider the application of the increase of assumed weight of persons to liferafts and launching appliances, including possible impacts of changes of the liferaft capacity on the numbers of liferafts and evacuation times, and to prepare amendments to the LSA Code and the Revised recommendation on testing of LSA.

Report of the correspondence group

7.3 The Sub-Committee considered the report of the correspondence group (DE 52/7), noting that the group had generally agreed that the assumed weight of persons to be applied to liferafts should be consistent with that for lifeboats, at least with regard to structural integrity, and had prepared relevant draft amendments to the LSA Code and to the Revised recommendation on testing of LSA, as set out in the annex to the report. Issues for further discussion raised by the group were: the practicability of two different occupant weight criteria for cargo ship and passenger ship liferafts, the floor space criterion, rating of existing liferaft launching appliances, and application of weight criteria to marine evacuation systems.

Instructions to the LSA Working Group

7.4 Following the discussion, the Sub-Committee instructed the LSA Working Group established under agenda item 6 (Measures to prevent accidents with lifeboats) to finalize the draft amendments to the LSA Code and to the Revised recommendation on testing of LSA, based on the proposal in the report of the LSA Correspondence Group (DE 52/7), taking into account the aforementioned issues raised by the group for further discussion and comments and proposals made in plenary.

Report of the LSA Working Group

7.5 The Sub-Committee, having considered the part of the report of the LSA Working Group dealing with the agenda item (DE 52/WP.1), took action as outlined in the following paragraphs.

7.6 The Sub-Committee agreed to draft amendments to the LSA Code and to the Revised recommendation on testing of LSA (resolution MSC.81(70)), as set out in annexes 5 and 9, respectively, for submission to MSC 86 for approval and subsequent adoption, as appropriate.

7.7 With regard to the aforementioned draft amendments to the LSA Code, the Sub-Committee noted that the group had agreed that, since marine evacuation systems are generally used only on passenger ships, the amendments to the LSA Code should not apply to marine evacuation system platforms as proposed in document DE 52/7, and had revised the draft amendments accordingly, noting that the same principles as applied to liferafts should be considered for application, in the future, to open reversible liferafts carried in accordance with the HSC Code, when a suitable opportunity arises.

7.8 The Sub-Committee noted that the group had considered the proposal in the report of the LSA Correspondence Group (DE 52/7) for a uniform increase in the assumed weight of liferaft occupants to 82.5 kg, consistent with the approach taken earlier for lifeboats for use on cargo ships and had agreed that as a practical matter, a single uniform criterion based on the worst case was preferable to different requirements for lifeboats on cargo ships and passenger ships. To address concerns about the impact of an increase in assumed occupant weight, or decrease in capacity, on inflatable liferafts with regard to compatibility with passenger ship launching appliances, the group had agreed that supplemental guidance in the form of an MSC circular should be developed to clarify that the determination of the safe working load of a liferaft launching appliance on a passenger ship should be based on an assumed occupant weight of 75 kg, even though the liferaft has been tested to a higher weight standard.

7.9 The Sub-Committee agreed with the proposal of the working group and instructed the LSA Correspondence Group (see paragraph 6.43) to prepare a draft MSC circular clarifying the application of the new liferaft weight criteria with regard to compatibility with passenger ship liferaft launching appliances.

Extension of the target completion date for the item

7.10 Following the agreement to prepare a draft MSC circular to clarify the application of the new liferaft weight criteria (see paragraph 7.9), the Sub-Committee invited the Committee to extend the target completion date for the item to 2010.

8 TEST STANDARDS FOR EXTENDED SERVICE INTERVALS OF INFLATABLE LIFERAFTS

8.1 The Sub-Committee recalled that DE 51 had instructed the LSA Correspondence Group to further develop and finalize the draft amendments to the LSA Code, the Revised recommendation on testing of LSA (resolution MSC.71(80)) and the Recommendation on conditions for the approval of servicing stations for inflatable liferafts (resolution A.761(18)) discussed at that session. DE 51 had also instructed the group to develop a draft MSC circular as guidance for Administrations when permitting extended service intervals for inflatable liferafts under the existing provisions of SOLAS chapter III.

Report of the correspondence group

8.2 The Sub-Committee considered the report of the correspondence group (DE 52/8, submitted by the United States) and noted that the group had prepared, as instructed, a draft MSC circular on Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months (annex 1); and draft amendments to SOLAS chapter III (annex 2), the LSA Code (annex 3), the Revised recommendation on testing of LSA (annex 4), and the Recommendation on conditions for the approval of servicing stations for inflatable liferafts (annex 5). The group had discussed in particular whether the circular could serve as interim guidance until further experience has been gained and could be used as a basis for amendments to mandatory instruments at a later stage, but could not reach unanimous agreement on the matter.

8.3 In this context, the Sub-Committee discussed in particular whether the circular would be sufficient to cover the issue or whether the draft amendments should also be finalized and, noting views by delegations that the focus should be on the guiding MSC circular and that mandatory amendments could be considered after experience had been gained in its application, agreed that the draft MSC circular should be finalized at this session.

8.4 The observer from ILAMA, referring to paragraphs 8 and 11 of the report of the correspondence group (DE 52/8), stated that ILAMA manufacturers of "dated items", including pyrotechnics, liferaft internal and external position indicating light systems, water, provisions and hydrostatic release units, could support in principle the stowage of items outside the protective seal of the liferaft since this would give crews easy access to change date expired or expiring items. However, the battery cells that power the internal and external position indicating lights needed to be inside the protective seal and this would necessitate that the service stations ensure that there was sufficient life remaining in the battery cells for the entire 30-month service period of the liferaft. In relation to paragraph 11 of the group's report, the observer noted that several references were made to the recommendations contained in resolution A.761(18), whereby ILAMA manufacturers of "dated items" considered the statement in paragraph 5.11 of the

Recommendation annexed to the resolution, i.e. "… all items of equipment should be checked to ensure that they are in good condition and that dated items are replaced at the time of servicing if there is less than six months remaining before the expiry date approved by the Administration", to be flawed, if not illegal, for all "dated items" contained within the watertight seal. In their view, the resolution knowingly condoned service stations to re-use "dated items" for further periods of 12 months (currently) or 30 months (proposed), which could render the enclosed "dated items" to be at least six or 24 months out of date at the next service. In addition, shipowners might apply for a delay to the next service of liferafts under current rules for a maximum period of five months, with the Administration's approval, and, with this extension granted in the majority of instances, it was conceivable that a "dated item" could be even 11 months currently, or 29 months out of date if the group's proposals were agreed. He stated that the "dated items" manufacturers of ILAMA were appalled at the current and proposed blatant disregard of their declared and approved dates of expiry and they therefore proposed that paragraph 5.11 of the Recommendation (resolution A.761(18)) be deleted or amended as soon as possible. In these days of litigation, he added, ILAMA manufacturers were very aware that survivors in liferafts at sea might perish due to the malfunction or non-operation of out-of-date safety equipment, particularly at night, and the responsibility for that scenario could not be put on the manufacturers of dated products, as they had made very clear the period of validity of their equipment, which was based upon years of experience and testing to the very strict IMO standards imposed. He also stated that no comprehensive independent tests had been conducted to confirm all types of "dated items" past their expiry dates actually complied with the requirements, or even operated, and that it was of no use stating that a product operated at ambient temperature when visually checked; the product needed to comply with the requirements of resolution MSC.81(70). He recalled that results of some tests passed to this Sub-Committee showed that in many cases the tests confirmed that the products failed to comply with the requirements, and in some cases failed to operate, whereby these tests were only conducted to show the poor quality of some approved safety equipment and did not specifically test "date expired" products. He stressed that the "dated items" manufacturers of ILAMA could not accept proposals to allow their products to become "date expired" under any circumstances and proposed that paragraph 5.11 of the Recommendation (resolution A.761(18)) be amended as soon as practicable.

Instructions to the LSA Working Group

8.5 Following discussion, the Sub-Committee instructed the LSA Working Group to, taking into account the outcome of the discussion in plenary, finalize the draft MSC circular on Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months, on the basis of document DE 52/8, annex 1.

Report of the LSA Working Group

8.6 Having considered the part of the report of the LSA Working Group dealing with the agenda item (DE 52/WP.1), the Sub-Committee agreed to the draft MSC circular on Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months, set out in annex 10, for submission to MSC 86 for approval.

8.7 The delegation of the United States expressed concern regarding an agreed change to paragraph 6.1.5 of the draft circular to impose a more stringent requirement for replacement of dated items in the liferaft than that specified in resolution A.761(18), noting that it introduces an inconsistency with the existing recommendation, and cannot be applied uniformly in any case because there are no agreed international standards for expiry dates.

8.8 The observer from ILAMA, recalling his earlier statement on the matter, where he had stated that paragraph 5.11 of the Recommendation (resolution A.761(18)), was in error, if not illegal, for "dated items" contained within current liferafts and had proposed that this paragraph required amendment or deletion, stated that, with the agreement on the new Guidelines for extended service liferafts, which do not allow "date expired" items to occur, it was now logical that all liferafts should be treated similarly, and, therefore, paragraph 5.11 of the Recommendation (resolution A.761(18)) should be amended to remove all references allowing "dated items" to become "date expired" by up to six months prior to the next annual service, and this proposed amendment should be implemented as soon as practicable.

Completion of the work on the item

8.9 Since work on the item had been completed, the Sub-Committee invited the Committee to delete it from the work programme.

9 AMENDMENTS TO THE GUIDELINES FOR SHIPS OPERATING IN ARCTIC ICE-COVERED WATERS

9.1 The Sub-Committee recalled that DE 51 had established a correspondence group and instructed it to prepare a draft revision of the Guidelines for ships operating in Arctic ice-covered waters; had agreed to prepare a complete revision of the Guidelines together with a draft resolution for their adoption; and had agreed to consult the SLF Sub-Committee with regard to the impact of the revised SOLAS chapter II-1 provisions relating to subdivision and damage stability.

9.2 The Sub-Committee noted, in this connection, that STW 40 had considered views that appropriate requirements to ensure that officers are adequately trained for navigating in ice-covered waters should be included as guidance in part B of the STCW Code and, consequently, established a correspondence group which was instructed to develop a preliminary proposed text for training guidance for personnel operating in ice-covered waters and to report to STW 41 (see paragraph 2.2.1).

9.3 The Sub-Committee also noted that BLG 13 had agreed to draft amendments to MARPOL Annex I, regarding special requirements for the use or carriage of oils in the Antarctic area, for submission to MEPC 59 for approval with a view to adoption (see paragraph 2.3.1).

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

.1 DE 52/9 (Secretariat), reporting on the outcome of SLF 51's consideration whether the stability requirements in the Guidelines should follow the probabilistic concept;

.2 DE 52/9/1 (report of the correspondence group submitted by Canada), containing revised draft Guidelines for ships operating in [polar] [Arctic and Antarctic] ice-covered waters, an associated draft Assembly resolution for their adoption and a list of further proposals for amendments/modifications and additions to the draft Guidelines made by members of the correspondence group;

.3 DE 52/INF.4 (Canada), containing a summary of the submissions made to the correspondence group and noting explanations, guidance from the group's coordinator and action taken as a result;

.4 DE 52/9/2 (United States), informing the Sub-Committee that they had submitted a proposal to MSC 86 to include a new item in the work programme of the Sub-Committee and other sub-committees, as appropriate, to revise the Guidelines, once adopted, for both polar regions, as mandatory requirements;

.5 DE 52/9/3 (Russian Federation), proposing modifications to the draft Guidelines concerning the description of admissible navigational conditions for Polar Class ships in table 1.1; ice propulsion; minimum admissible level of icebreaking capability and differentiation between icebreakers and cargo vessels;

.6 DE 52/9/4 (BIMCO, IPTA), strongly supporting to include the Antarctic in the Guidelines, the consequential amendment of the name to "Polar Code" and a mandatory application of the Code;

.7 DE 52/9/5 (United Kingdom), providing comments and observations on the report of the correspondence group regarding the extent of application and seeking clarification of requirements regarded as being ambiguous, and suggesting that certain sections are referred to other sub-committees for expert advice; and

.8 DE 52/9/6 (CLIA), recognizing the broad spectrum of vessels and marine operations in the Arctic and Antarctic regions and the fact that one size will not fit all of these and proposing a tiered approach to the development of the proposed Guidelines, based on risk assessment as opposed to simply amending the existing Guidelines.

9.5 During the ensuing discussions, the majority of delegations which spoke, while expressing sympathy for the risk-based approach proposed by CLIA (DE 52/9/6), which they found should be further explored, advocated the completion of the Guidelines at this session, in order not to delay their urgently needed update any further, particularly taking into account the increased frequency of accidents in the polar regions in the last few years. The Sub-Committee consequently agreed to task the working group (paragraph 9.9) with the finalization of the draft Guidelines, but also requested the group to consider an expansion of the agenda item to further develop them following a risk-based approach, recognizing that this would tie in with the proposal of the United States for a new work programme item concerning the development of mandatory requirements for the polar regions, submitted to MSC 86 (see paragraph 9.4.4).

9.6 The delegation of the United Kingdom stated that the original Guidelines were developed primarily for cargo vessels and that, with the change in emphasis regarding the areas and the vessels to which the revised Guidelines would apply, a fundamental review of the suitability of the guidance and its implementation was necessary. The delegation supported the introduction of a mandatory regime in the near future, but pointed out that significant issues remained to be resolved and that, in their view, the revised Guidelines were not in a state where they could be made mandatory. They stressed that the correspondence group had identified significant limitations of the Guidelines and so exposed a compelling need to develop a new, preferably mandatory, instrument for operations in polar or polar ice-covered areas, and recalled that vessels registered to, or operated from, Antarctic Treaty States were required to fulfil notification and environmental assessment procedures prior to entering Antarctica, and that this was also the case under the United Kingdom regulation. Consequently, by default, any Guidelines adopted by IMO would become effectively mandatory as part of a permit of entry into the Antarctic area. They proposed a two-way approach forward: firstly, to bring the Guidelines to a state where they could form a basis for future development and, additionally, to invite the Committee to extend the work programme item until the next session and to re-establish the correspondence group;

secondly, to develop either a justification for a new work programme item or extend the scope of the current item, in cooperation, perhaps, with the SLF Sub-Committee, to develop a new mandatory instrument for ships operating in polar or polar ice-covered waters. The United Kingdom was of the view that the existing Guidelines required considerable work to provide the necessary clear and consistent framework for safe and sustainable vessel operations in the polar regions. In their view, the priority was to develop a binding legal framework in which all vessel operators may plan for future operations, rather than simply to modify guidelines that were originally designed with a different intention and had been demonstrated to be no longer fit for purpose.

9.7 The delegation of Chile, supported by the delegation of Argentina, while thanking the United States for their document DE 52/9/2, referred to the inadequate response capacity for search and rescue and environmental protection in Antarctica indicated in paragraph 5 of the document and recalled the Secretary-General's opening speech, highlighting the outstanding results reached by certain countries that carried out MRCC work and provided SAR services. In their view, these countries had shown an excellent coordination capacity and exemplary effectiveness whilst dealing with the latest maritime disasters in that area and maintained, although being aware that there were some aspects that could be revised and improved, that the efforts made year after year, particularly in the Antarctic summer months when the shipping traffic in the region is at its highest, had been successful, avoiding thus the tragic loss of human life at sea and also significant damage to the marine environment.

Mandatory application of the Guidelines

9.8 Having considered document DE 52/9/2 concerning a revision of the Guidelines, once adopted for both polar regions, to make them mandatory, the Sub-Committee, while supporting the proposal for a new work programme item to develop mandatory requirements for the polar regions, reiterated its decision to continue with the finalization of the Guidelines at this session, bearing in mind that a further revision of the requirements would be possible once the proposal had been approved by the Committee.

Establishment of the working group

9.9 Following discussion, the Sub-Committee established a working group and instructed it, taking into account the comments and decisions made in plenary, to:

.1 finalize the revised Guidelines for ships operating in polar ice-covered waters and the associated draft Assembly resolution, on the basis of document DE 52/9/1, taking into account documents DE 52/9/2, DE 52/9/3, DE 52/9/4, DE 52/9/5, DE 52/9/6 and DE 52/INF.4; and

.2 prepare a justification for a new programme item on "Development of a Code for ships operating in polar waters", taking into account documents DE 52/9/2 and DE 52/9/6, for consideration by the Sub-Committee.

Report of the working group

9.10 Having considered the report of the working group (DE 52/WP.2), the Sub-Committee approved it in general and took action as outlined in the following paragraphs.

Revision of the Guidelines

Title

9.11 In considering the scope of the revised Guidelines, the Sub-Committee noted that the group had unanimously agreed that the title should refer to "polar waters" without any qualifications, taking into account that "ice-coverage" is not the only challenge when sailing in polar waters. The Sub-Committee also noted that the group had discussed the recommendatory nature of the provisions under consideration, taking into account that a mandatory code may be developed in the future, and agreed to name the revised provisions "Guidelines for ships operating in polar waters".

Preamble

9.12 The Sub-Committee noted that the group had made minor editorial modifications to the principles contained in the preamble and, in particular, had agreed to divide paragraph P-2.6 to add a new sentence emphasizing that the Guidelines should be applied taking into account the nature of the operations that are anticipated. The Sub-Committee also noted that a new paragraph 2.10 was added to emphasize that the intention of the revised Guidelines is to provide high standards of environmental protection to address both accidents and normal operations.

Guide

9.13 The Sub-Committee noted that the group had reviewed the draft definitions in section G-3, taking into account documents DE 52/9/3, DE 52/9/5 and DE 52/9/6 and the comments made by the correspondence group (DE 52/INF.4) and, in particular, had:

.1 harmonized the definition for *pollutants* with that contained in the MARPOL Convention for purposes of consistency;

.2 reorganized the definitions relating to operational areas to better clarify the meaning of the terms "polar waters" and "ice-covered waters"; and

.3 inserted a new map for the Antarctic waters.

9.14 The Sub-Committee noted that the group had considered the proposal by the Russian Federation (DE 52/9/3) to include, in table 1.1, a minimum admissible level of icebreaking capability for each class on the basis of their experience of operating Arctic ships and, after an extensive discussion, had decided not to include the above criterion since it would conflict with the IACS Unified Requirements for Polar Class Ships. However, explanatory wording related to this matter was added to chapter 7. In this context, the Sub-Committee noted that the observer from IACS would bring the above proposal to the attention of IACS.

9.15 The Sub-Committee noted that the group, having considered the comments by the observer from CLIA that ships operating seasonally and in moderate temperatures should not have to meet the provisions of paragraph 1.1.1, which stipulated that life-saving and fire-extinguishing equipment, when stored or located in an exposed position, should be rated to perform at a minimum air temperature of -30°C, had agreed to modify the aforementioned paragraph to take account of the anticipated temperatures in lieu of specifying -30°C, recognizing that a "one size fits all approach" was not the intention of the Guidelines.

Chapter 3 – Subdivision and stability

9.16 The Sub-Committee noted that the group had had an extensive discussion on the draft provisions related to damage stability contained in paragraph 3.3, taking into account documents DE 52/9/5 and DE 52/INF.4 and the outcome of SLF 51 (DE 52/9), and that several delegations had expressed the view that the draft provisions were not consistent with the revised SOLAS chapter II-1. Consequently, the group had agreed that all ships of Polar Class should be able to withstand flooding resulting from hull penetration due to ice impact and that the residual stability following ice damage should be such that the factor s_i, as defined in SOLAS regulation II-1/7.2, was $s_i = 1$ for all loading conditions.

9.17 In this connection, the group had also agreed that, for ships of Polar Classes 6 and 7 not carrying polluting or hazardous cargoes, the ice damage extent may be assumed to be confined between watertight bulkheads, except where such bulkheads are spaced at less than the damage dimension.

Chapter 7 – Main machinery

9.18 The Sub-Committee noted that the group had had an extensive discussion on the draft provisions related to installed propulsive power, as contained in paragraph 7.2.4, taking into account document DE 52/9/3, and noted the views of the delegation of the Russian Federation that the ship's power should be sufficient to ensure the minimum level of icebreaking capability, depending on a ship's class.

9.19 Having considered the above view, the Sub-Committee noted that the group, taking into account that ships are designed for a variety of operating profiles, had agreed that the installed propulsive power should be sufficient to ensure that the ship can navigate safely and with effective icebreaking capability, as appropriate, without risk of structural damage or pollution under the design ice, weather and anticipated operational conditions, and modified paragraph 7.2.4 accordingly.

Chapter 11 – Life-saving appliances and survival arrangements

9.20 The Sub-Committee noted that the group had considered, in detail, the provisions for personal survival kits in section 11.3 and noted that the revised Guidelines allow flexibility in determining the contents of kits to recognize that the ship's crew has different equipment needs than passengers in an emergency.

9.21 The Sub-Committee noted that the group had decided to modify the text of paragraph 11.4.2 on the reference to firearms for protection from wildlife, to remove any mentioning of particular weapons.

9.22 In considering whether lifeboats should be partially or totally enclosed, as contained in section 11.5, the Sub-Committee noted that the group, after an extensive discussion, had agreed that protection from the elements was essential, given the rapidly changing weather conditions in polar regions. The Sub-Committee also noted the group's view that the recent passenger ship incidents in Antarctic waters, which did not result in loss of life, highlighted the urgent need to address this issue proactively.

9.23 Consequently, the group had agreed that, where lifeboats are required by SOLAS, they should be partially or totally enclosed lifeboats, to protect persons from the elements, depending on the anticipated operating environment.

Chapter 12 – Navigational equipment

9.24 In considering paragraph 12.3.1 on speed and distance measurement, the Sub-Committee noted that the group had agreed to replace the existing text to specify that all ships should be fitted with, at least, two speed and distance measuring devices and that such devices should operate on a different principle in order to provide both speed through the water and speed over ground. In this connection, the Sub-Committee also noted that the group had agreed to specify that "all ships" should comply with all of the navigational provisions.

Chapter 13 – Operational arrangements

9.25 The Sub-Committee noted that the group, in considering the provisions for drills and emergency instructions, had agreed to modify the provisions for rescue boat drills to remove the specific reference to having crew on board the boat while it is being lowered, taking into account the latest amendments to SOLAS and the LSA Code on this issue. In this connection, the group had also agreed to delete references to conducting launching drills while making headway, since this matter is already adequately covered in other IMO instruments.

9.26 In considering the concerns expressed about the remoteness of SAR facilities in some polar areas, the Sub-Committee noted that the group had agreed to add a new paragraph to section 13.2 to emphasize that all passenger ships operating in polar waters should take account of the distance from SAR facilities and of the Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities (MSC.1/Circ.1184).

Chapter 14 – Crewing

9.27 The Sub-Committee noted that the group had had an extensive discussion on the provisions covering the qualifications and training for Ice Navigators and had agreed to add a new sentence to specify that the qualifications of an Ice Navigator should include documented evidence of having completed on-the-job training, as appropriate, and may include simulation training. In this regard, the Sub-Committee noted that work on development of competencies for Ice Navigators and an associated model course was in progress in the STW Sub-Committee for finalization in 2010.

Chapter 16 – Environmental protection and damage control

9.28 The Sub-Committee noted that the group had had an extensive discussion on the various international activities related to oil carriage and transfer practices in polar waters but had decided that no specific reference to such documents should be made in the Guidelines. However, the group agreed to a new paragraph 16.3 to specify that procedures for the protection of the environment under normal operations should take into account any applicable national and international rules and regulations and industry best practices related to operational discharges and emissions from ships, use of heavy grade oils, strategies for ballast water management, use of anti-fouling systems, and other related measures.

Draft Assembly resolution

9.29 In considering the draft Assembly resolution prepared by the correspondence group, the Sub-Committee noted that the group, having considered the views of several delegations that the application of the Guidelines should be encouraged for all ship types and sizes, where appropriate, had agreed to add a new operative paragraph to encourage all Governments concerned to take appropriate steps to give effect to the Guidelines to existing ships as far as is reasonable and practicable.

Finalization of the draft Guidelines for ships operating in polar waters

9.30 Having considered the above issues, the Sub-Committee agreed to the draft Assembly resolution on Adoption of the Guidelines for ships operating in polar waters, as set out in annex 11, for submission to MSC 86 and MEPC 59 for approval and subsequent submission to the twenty-sixth session of the Assembly for adoption.

Justification for a new work programme item

9.31 The Sub-Committee noted that the group had further considered documents DE 52/9/2, DE 52/9/4, DE 52/9/5 and DE 52/9/6. Subsequently, the Sub-Committee agreed to a justification for the inclusion of a new item on "Development of a Code for ships operating in polar waters", as set out in annex 12, for approval by MSC 86, bearing in mind that the Sub-Committee may need to also consult with the MEPC on environmental issues.

9.32 The delegation of the United States, supported by the delegations of Denmark and Norway, expressed its understanding that the working group addressed the concerns of the delegation of the United Kingdom and others regarding changes to the Guidelines that may lead to action by this Sub-Committee at a future time and discussed this issue at length; however, the delegation sought to clarify the intent of the group when proposing a new work programme item on the mandatory application of the Guidelines. In recognition of the existing request for such a new work programme item to develop mandatory requirements for ships operating in polar regions, submitted by Denmark, Norway and the United States to MSC 86, the group developed a justification to address actions that may be considered at a future time. To reflect this discussion, the delegation of the United States proposed to include the word "mandatory" in the title of the justification, such that it would read "Development of a mandatory Code for ships operating in polar waters", and also to amend the first sentence of paragraph 1 (Scope) to read "to conduct a review of the relevant IMO instruments with a view to preparing a comprehensive mandatory Code for ships operating in polar waters to enhance maritime safety and address the increasing potential for an adverse impact resulting from the increased traffic of ships, amounts of cargo and number of persons in these waters".

Completion of the work programme item

9.33 The Sub-Committee invited the Committee to delete this item from its work programme as the work had been completed.

10 REVISION OF RESOLUTION A.760(18)

10.1 The Sub-Committee recalled that DE 51 had noted that the new ISO standard 24409 on shipboard signs, which was to be taken into account in the revision of resolution A.760(18) on Symbols related to life-saving appliances and arrangements, had not been finalized at that time and had, therefore, agreed to postpone work on the item until the new standard was available.

10.2 In this connection, the Sub-Committee also recalled that, at its twenty-third session, the Assembly had adopted resolution A.952(23) on Graphical symbols for fire control plans, as prepared by the FP Sub-Committee.

10.3 The Sub-Committee considered document DE 52/10 (ISO), informing it that ISO's Technical Committee TC 8/SC 1 (Ships and marine technology, subcommittee on lifesaving and fire protection) working group 3 (WG 3) was continuing the development of the ISO 24409 series "Design, location, and use of shipboard signs for fire protection, life-saving appliances,

and means of escape" and that, when completed, this new international standard would comprehensively address shipboard safety and safety-related signs, with potential effect on both resolution A.760(18) and MSC/Circ.699 (Revised Guidelines for passenger safety instructions). The document further informed that the next meeting of ISO/TC 8/SC 1 and its working groups was scheduled for May 2009 where the ISO 24409 series would be a major topic and that participation of IMO Member States would be greatly welcome.

10.4 Noting the information provided by ISO, the Sub-Committee:

.1 agreed to postpone further consideration of the item to DE 53, when the results of ISO's work on the ISO 24409 series are expected to be available;

.2 invited Member Governments and international organizations to actively participate in the meeting of ISO/TC 8/SC 1;

.3 invited ISO to submit information on the outcome of the above meeting to DE 53 as early as possible; and

.4 invited Member Governments and international organizations to submit concrete proposals for changes to the symbols related to life-saving appliances and arrangements adopted by resolution A.760(18) to DE 53 so that the revision of the symbols may be finalized at that session.

11 GUIDELINES FOR UNIFORM OPERATING LIMITATIONS OF HIGH-SPEED CRAFT

11.1 The Sub-Committee recalled that DE 51 had re-established the correspondence group and instructed it to finalize the draft Guidelines for uniform operating limitations of high-speed craft, considering, in particular, the outstanding issues identified in the report of the previous correspondence group (DE 51/13) and incorporating the contributions provided by COMSAR 12, NAV 54 and SLF 51.

11.2 The Sub-Committee noted the information provided in document DE 52/11 (Secretariat), reporting on the outcome of COMSAR 12, NAV 54 and SLF 51 in the matter, noting, as indicated in paragraph 11.1, that the outcome of those Sub-Committees had already been incorporated in the draft Guidelines by the correspondence group.

11.3 The Sub-Committee considered the report of the correspondence group (DE 52/11/1), containing, in the annex, the draft Guidelines for uniform operating limitations of high-speed craft, as prepared by the group, noting, in particular, that opinions in the group had been divided regarding the deletion of appendix C (Risk assessment in relation to wake wash waves) and the relevant footnote to paragraph 7.3 of the draft Guidelines making reference to appendix C (DE 52/11/1, paragraph 7.6), with a narrow majority in favour of deletion, and that the group had invited the Sub-Committee to consider the issue and to take action as appropriate.

11.4 The Sub-Committee noted that the group, in the course of the work on the draft Guidelines, had discussed whether trials required by annex 9 to the 2000 HSC Code may be dispensed with in some circumstances and had concluded that guidance might be given on arrangements that are considered to be at least equivalent to those of the Code.

11.5 Having agreed with the proposed deletion of appendix C regarding wake wash waves and the related footnote to paragraph 7.3, the Sub-Committee proceeded to review the draft Guidelines section by section.

11.6 The delegation of the United Kingdom, although agreeing with the draft Guidelines, expressed concern regarding the extrapolation of trial results specified in paragraph 6.1 and stated that they would reserve their position in the case that the Guidelines would become mandatory.

11.7 Following the review of the draft Guidelines, the Sub-Committee agreed to a draft MSC circular on Guidelines for uniform operating limitations of high-speed craft, as set out in annex 13, for submission to MSC 86 for approval.

11.8 Since work on the item had been completed, the Sub-Committee invited the Committee to delete it from the work programme.

12 GUIDELINES FOR MAINTENANCE AND REPAIR OF PROTECTIVE COATINGS

12.1 The Sub-Committee recalled that DE 51 had further developed the draft Guidelines for maintenance and repair of protective coatings (DE 51/WP.2, annex 1) and, noting that the work on "areas under consideration" had not been completed, deferred finalization of the draft Guidelines to this session, subject to the outcome of IACS' ongoing work on "areas under consideration".

12.2 The Sub-Committee considered document DE 52/12 (IACS), advising it that IACS had further considered the issue of "areas under consideration" and had developed a proposal, as set out in the annex to the document, to replace section 4.2.3 of the draft Guidelines for maintenance and repair of protective coatings provided in annex 1 to document DE 51/WP.2, and agreed, after a brief discussion, that "areas under consideration" should be kept separate for oil tankers and for ships other than oil tankers.

Education and examination of qualified coating inspectors

12.3 The Sub-Committee noted document DE 52/INF.9 (Poland), informing it about Guidelines on supervising the education and examination of qualified coating inspectors according to the standards of resolution MSC.215(82) and the issuance of certificates, approved by the Polish Maritime Administration.

12.4 The delegation of China informed the Sub-Committee about a scheme established in China to carry out training, examination and certification of coating inspectors, stating that to fully implement the PSPC and meet its requirements on the qualification of coating inspectors, the Maritime Administration of China approved and issued a Code on the Accreditation of Ship Coating Inspectors' Qualification in June 2008, and formed a Certification Committee for Marine Coating Inspectors of China to carry out coating inspector's training, examination and certification, whereby the Certification Committee is responsible for the implementation of accreditation of coating inspectors under the supervision of the Administration. The responsibilities of the Certification Committee include approval of training materials, set up of training syllabi and examination papers; conduct of examinations, ratification and supervision of training classes, and issuing of coating inspector certificates. Training programmes and examinations are composed of theoretical and practical parts and a candidate has to pass both parts in order to be qualified. There are three levels of coating inspectors in the above mentioned scheme: Levels CCMCIC-I, CCMCIC-II and CCMCIC-III, whereby Level CCMCIC-II is approved by the China Maritime Administration as equivalent to NACE Level 2 Inspectors or FROSIO Inspector Level III.

Establishment of a drafting group

12.5 The Sub-Committee established the Drafting Group on Protective Coatings (see also paragraph 14.5) and instructed the group, taking into account comments and proposals made in plenary, to finalize the draft MSC circular on Guidelines for maintenance and repair of protective coatings, on the basis of documents DE 51/WP.2 (annex 1), DE 51/14/Add.1 and DE 51/14/Add.2, and taking into account document DE 52/12.

Report of the drafting group

12.6 Having considered the report of the drafting group (DE 52/WP.5), the Sub-Committee approved it in general and took action as described in the following paragraphs.

12.7 The Sub-Committee noted the group's deliberations concerning appendices 1 to 10 to the draft Guidelines, which were mostly copies of the appendices to IACS Recommendation 87, and, taking into account that to copy an industry standard into an IMO instrument was not considered appropriate and would be a burden to the Organization to maintain and update, decided to delete appendices 1 to 10 to the draft Guidelines and to keep only pertinent references to the appropriate appendices to IACS Recommendation 87, together with the website address for reference purposes.

12.8 Subsequently, the Sub-Committee agreed to the draft MSC circular on Guidelines for maintenance and repair of protective coatings, set out in annex 14, for submission to MSC 86 for approval.

Completion of the work programme item

12.9 Since work on the item had been completed, the Sub-Committee invited the Committee to delete it from the work programme.

13 PERFORMANCE STANDARDS FOR RECOVERY SYSTEMS

13.1 The Sub-Committee recalled that DE 51 had instructed the LSA Correspondence Group to further develop the draft amendments to SOLAS and the LSA Code concerning recovery systems as submitted to that session (DE 51/16).

13.2 The Sub-Committee considered the report of the correspondence group (DE 52/13, submitted by the United States) and noted that, in addition to the draft amendments to SOLAS and the LSA Code developed by the LSA Correspondence Group established by DE 50 (DE 51/16), the group had considered an additional detailed set of requirements proposed by Germany (DE 52/13, annex), but could not reach consensus on the general approach to be applied. A majority of the group supported a performance-based approach versus a dedicated equipment-based approach. The group felt that further discussion was needed to establish a consensus on a general direction for further work before meaningful progress in the development of suitable detailed requirements could be made.

13.3 The Sub-Committee also considered document DE 52/13/1 (ICS), proposing that rather than establish performance standards for ship's rescue/recovery equipment it would be more appropriate to develop guidance regarding recovery plans and procedures, written in support of Section 8 of Part A of the ISM Code.

13.4 The Sub-Committee further noted document DE 52/INF.10 (Iceland), providing information on recovery devices presently required to be carried on board Icelandic fishing vessels, developed to provide for successful recovery of persons from the water under environmental conditions to be expected in the North Atlantic Ocean.

13.5 The Sub-Committee agreed that a debate was necessary to establish how to proceed with the item, i.e. which of the following three options should be pursued:

.1 to develop guidance regarding recovery plans and procedures, written in support of Section 8 of Part A of the ISM Code, as proposed by ICS (DE 52/13/1); or

.2 to develop relevant draft amendments to SOLAS and the LSA Code, as agreed at DE 51 (DE 51/16); or

.3 to develop separate performance standards for recovery systems, as proposed by Germany in the correspondence group (DE 52/13).

13.6 In this connection, the Sub-Committee recalled that MSC 81 had instructed it to develop performance standards for recovery systems for all types of new and existing ships to assist SAR coordinators in rescue operations, with a view to preparing mandatory requirements by 1 July 2012, when the relevant SOLAS amendments are expected to enter into force, taking into account that "rescue of persons" was one of the five strategic goals of the passenger ship safety initiative, which also included measures for increased survivability and alternative designs for life-saving appliances.

13.7 In the ensuing discussion, many delegations supported the opinion that performance standards should be developed based on functional requirements for recovery. Supporting procedures may allow ships to assess their potential rescue capabilities based on individual design, construction and operating characteristics as well as on specific life-saving appliances and other equipment carried. In case such an assessment would indicate that no appropriate equipment was already on board, then additional rescue equipment would be required.

13.8 The Sub-Committee, noting the support for the proposal by ICS to develop alternative guidance regarding recovery plans and procedures in support of the ISM Code, agreed that this should be taken into consideration by the correspondence group.

Instructions to the LSA Correspondence Group

13.9 The Sub-Committee instructed the LSA Correspondence Group (see paragraph 6.43), on the basis of documents DE 52/13 (annex) and MSC 81/WP.6, and taking into account document DE 52/13/1 and comments and proposals made in plenary, to:

.1 develop draft amendments to the LSA Code introducing performance standards for recovery systems for all types of ships;

.2 review the draft SOLAS regulations III/17-1 and III/26.4, set out in document MSC 81/WP.6, and prepare the final text of the regulations; and

.3 submit a report to DE 53.

13.12 The Sub-Committee requested the Secretariat to inform the COMSAR Sub-Committee of the action taken.

14 CARGO OIL TANK COATING AND CORROSION PROTECTION

General

14.1 The Sub-Committee recalled that DE 51 had agreed, in principle, on a draft new SOLAS regulation concerning mandatory coating of cargo oil tanks of new oil tankers and on an associated performance standard and instructed the Working Group on Protective Coatings to further develop the draft SOLAS regulation and the draft performance standard and to submit the outcome to this session as a second part of the report of the group.

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

.1 DE 52/14 (second part of the report of the Working Group on Protective Coatings at DE 51, submitted by the United States), containing the further developed draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers (annex 1) and the Performance standard for protective coatings for cargo oil tanks of crude oil tankers (annex 2). Regarding the test procedure for coating qualification for cargo oil tanks of crude oil tankers (annexed to the Performance standard), the group agreed that the appropriate technical expertise to make determinations to rectify potential inadequacies was not properly represented in the group and recommended that an Industry Joint Working Group should be invited to further develop this matter;

.2 DE 52/14/1 (IPPIC, ICS and INTERTANKO), containing the report of the Industry Joint Working Group for Cargo Oil Tank Coating Performance Standard (JWG/COTCPS), which undertook to develop a test standard for coating to be applied in the cargo tanks of crude oil tankers, whereby the resulting practical tests were performed by IPPIC. However, during the evaluation of different painting products, it became clear that the test as described was not a repeatable and reproducible test method and, under the conditions defined, would exclude coatings which have a proven service record. Furthermore, the test medium (crude oil) is difficult to obtain in laboratory size samples and its composition is also variable. In addition, a number of health and safety-related issues, e.g., the use of sulphur dioxide and hydrogen sulphide, have surfaced which would make it difficult to do the tests in many third party laboratories without expensive extra safety measures, if even allowed at all. Consequently, the JWG was of the opinion that, at this time, the test procedure in the standard could be replaced by a "statement of fit for purpose" from the coating manufacturer (example included in the document) until such time as a unified test procedure is available. The JWG recommended that, meanwhile, work to develop a test method should continue with the objective to develop the standard as soon as possible;

.3 DE 52/14/2 (China), containing comments on the test procedures for coating qualification to be developed and informing the Sub-Committee that China is currently evaluating the test procedure and that the tests are scheduled to be finished by July 2009. They are commenting, in particular, on the test medium, the condensation chamber test and the immersion test;

.4 DE 52/INF.7 (China), containing detailed information on the testing work conducted by China for comparison and evaluation of the test method for coating qualification for cargo oil tanks of crude oil tankers;

.5 DE 52/14/3 (Japan), supporting the recommendation of the JWG to continue the work to develop a test procedure, but not supporting the proposal for a "statement of fit for purpose" from the coating manufacturer without any unified test procedure for evaluation, because neutrality, objectivity and liability would not be secured appropriately by such a statement. Japan suggested two options on how to proceed:

.1 to finalize the draft SOLAS amendment without the performance standard at this session and forward it to MSC 86 for approval, and finalize the performance standard, which would include the test procedure, at DE 53, and adopt the whole package at MSC 87; or

.2 to finalize the draft SOLAS amendment and the performance standard without the test procedure at this session, and forward them for approval to MSC 86 and adoption at MSC 87 with an appropriate phase-in period sufficient for developing the test procedure and conducting the tests. In this case, the test procedure would be a non-mandatory instrument; and

.6 DE 52/INF.6 (Japan), informing the Sub-Committee of the current progress on the application of corrosion resistant steel as a means for corrosion protection of cargo oil tanks of oil tankers.

14.3 Following discussion on the way to proceed, the Sub-Committee agreed to finalize the draft new SOLAS regulation for submission to MSC 86 for approval with a view to adoption, with the performance standards, including the test procedure for protective coatings for cargo oil tanks of crude oil tankers and for alternative means of corrosion protection, to be finalized at DE 53, for adoption of the whole package at MSC 87, rather than replacing the test procedure with a "statement of fit for purpose". In order to progress the work intersessionally, the Sub-Committee agreed to establish a correspondence group and instructed the drafting group (see paragraph 14.4) to develop terms of reference for such a group for the consideration of the Sub-Committee.

Instructions to the drafting group

14.4 The Sub-Committee instructed the Drafting Group on Protective Coatings established under agenda item 12, taking into account comments and proposals made in plenary, to:

.1 further develop, with a view to finalization, the draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers, based on document DE 52/14, annex 1;

.2 further develop the draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers, based on document DE 52/14 (annex 2), taking into account documents DE 52/14/1, DE 52/14/2, DE 52/14/3, DE 52/INF.6 and DE 52/INF.7; and

.3 prepare draft terms of reference for a correspondence group, for consideration by the Sub-Committee.

Report of the drafting group

14.5 Having considered the part of the report of the drafting group (DE 52/WP.5) dealing with the agenda item, the Sub-Committee took action as outlined in the following paragraphs.

Draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers

Options for alternative means of corrosion protection

14.6 In considering the following two options for alternative means of corrosion protection prepared by the group (DE 52/WP.5, annex 2, paragraph 3):

.1 the first option is a slight modification of the draft text prepared by the working group at DE 51 (DE 52/14, annex 1). This option was not considered appropriate by some members of the group, as it required equivalence with the Performance standard for protective coatings for cargo oil tanks of crude oil tankers, which is not achievable due to the very different methods considered. There was concern that it would be difficult to determine this equivalence without any prescribed measure; and

.2 the second option which allows for corrosion protection and corrosion resistance to be used and also requires structural integrity for 25 years, based on the goal-based new ship construction standards (GBS),

the Sub-Committee, noting that in both options the draft Performance standard for alternative means of corrosion protection for cargo oil tanks of crude oil tankers should be mandatory, as it was the group's intention that the regulatory scheme should be robust, decided to retain the second option.

Draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers

14.7 In light of the above decision, the Sub-Committee agreed to the draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers, set out in annex 15, for submission to MSC 86 for approval, with a view to subsequent adoption.

Draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers

Surface treatment

14.8 The Sub-Committee noted the group's view that in table 1.3.2 (Surface treatment), instead of a reference to resolution MSC.215(82), as previously proposed during the work of the working group at DE 51 (DE 52/14, paragraphs 9 and 10), the draft Performance standard should contain a copy of the relevant text of the aforementioned resolution, and agreed that the correspondence group should consider this issue.

Referenced standards

14.9 The Sub-Committee noted that the group had reiterated its intention that international standards acceptable to the Organization, which are referenced in the draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers, should be mandatory. In this context, it was pointed out by the observer from IACS that it was very difficult for recognized organizations to accept equivalent standards that may be proposed as an alternative and that as a result they needed to prepare unified interpretations mandating the reference standards and that they would prefer IMO to decide on the mandatory nature of the aforementioned references.

Coating Technical File (CTF)

14.10 In considering the group's view that there was a discrepancy between the draft Guidelines for maintenance and repair of protective coatings and the draft Performance standards on matters related to the CTF regarding the expressions "full re-coating", "partial re-coating" and "maintenance", the Sub-Committee agreed that this issue should be further considered by the correspondence group.

Acceptance of alternative coating systems

14.11 In noting the group's deliberation concerning paragraph 8.3.2 (Alternative coating systems) of the draft Performance standard, the Sub-Committee agreed that there was a need for a definition of the word "aggressive" in the context of the words "crude oil" and that this matter should be further considered by the correspondence group.

Draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers

14.12 The Sub-Committee agreed, in principle, to the draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers, set out in annex 3 to document DE 52/WP.5, and that the correspondence group should prepare the final draft text for consideration at DE 53.

Establishment of a correspondence group

14.13 Having considered the above issues, the Sub-Committee established a Correspondence Group on Coating, under the coordination of Japan* and instructed it to:

.1 finalize the draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers, based on document DE 52/WP.5 (annex 3), taking into account only the outstanding issues identified in document DE 52/WP.5 (paragraphs 15, 18, 19 and 21);

.2 develop, with a view to finalization at DE 53, the draft Test procedures for coating qualification for cargo oil tanks of crude oil tankers, taking into account documents DE 52/14/1, DE 52/14/2 and DE 52/INF.7;

.3 develop, with a view to finalization at DE 53, the draft Performance standard for alternative means of corrosion protection for cargo oil tanks of crude oil tankers, taking into account documents DE 51/19/2, annex 2; DE 51/INF.2; DE 51/INF.4; and DE 52/INF.6;

.4 if time permits, develop draft Guidelines on procedures for in-service maintenance and repair of coating systems for cargo oil tanks of crude oil tankers; and

.5 submit a report to DE 53.

---

* **Coordinator**:
Mr. M. Yoshida
Chief Researcher
Japan Ship Technology Research Association (JSTRA)
Toranomon Takagi Building
7-2, Nishi-shinbashi 1-chome, Minato-ku
Tokyo 105-0003, Japan
Tel. +81 3 3502 2277
Fax: +81 3 3504 2350
E-mail: masanori-y@jstra.jp

Extension of the target completion date

14.14 In view of the above developments, the Sub-Committee invited the Committee to extend the target completion date for the item to 2010.

15 GUIDANCE TO ENSURE CONSISTENT POLICY FOR DETERMINING THE NEED FOR WATERTIGHT DOORS TO REMAIN OPEN DURING NAVIGATION

15.1 The Sub-Committee recalled that DE 51 had established a correspondence group and instructed it to develop guidance for Administrations to ensure a consistent policy for determining the need for watertight doors to remain open during navigation when it is considered essential for the safe and effective operation of the ship's machinery or to permit passengers normally unrestricted access throughout the passenger area, in the context of the SLF Sub-Committee's work on guidance on the impact of open watertight doors on existing and new ship survivability.

15.2 The Sub-Committee noted document DE 52/15 (Secretariat), informing it about the outcome of SLF 51 regarding guidance on the impact of open watertight doors on existing and new ship survivability, in particular that SLF 51 had agreed that, while the DE Sub-Committee should develop operational guidance, the SLF Sub-Committee should develop design and construction guidance from the survivability point of view, distinguishing between new and existing ships.

15.3 The Sub-Committee considered the report of the correspondence group (DE 52/15/1), submitted by Sweden, noting that the group had developed draft Guidance for Administrations to ensure a consistent policy for determining the need for watertight doors to remain open during navigation [on all ships], set out in annex 1 to the report, and also developed, as a tool to help Administrations to validate the technical standards for watertight doors, a draft checklist on technical standards for watertight doors on passenger ships, set out in annex 2 to the report. The report also raised a number of unresolved questions regarding the draft guidance, in particular concerning the treatment of exemptions already issued by Administrations, application to existing ships and treatment of doors on older ships which have an operational necessity to being transitted.

15.4 During the discussion, several delegations remarked that there were still a number of unresolved issues and that the draft Guidance, as presented in the report of the correspondence group, needed further thorough consideration. Comments were made regarding the treatment of already existing exemptions for watertight doors, compatibility of the Guidance with national guidance and the operating areas where watertight doors should be kept closed.

15.5 Subsequently, the Sub-Committee re-established the correspondence group, under the coordination of Sweden*, and instructed it, taking into account document DE 52/15/1 and comments and proposals made in plenary:

---

* **Contact details:**
Mr. A. Holmgren
Master Mariner, Maritime Department
Östra Promenaden 7
SE-60178 Norrköping, Sweden
Tel: +46 11 19 12 15, +46 771 503 503
E-mail: andreas.holmgren@transportstyrelsen.se

.1 to further develop the draft Guidance for Administrations to ensure a consistent policy for determining the need for, and circumstances wherein, watertight doors may remain open during navigation when it is considered essential to the safe and effective operation of the ship's machinery or to permit passengers normally unrestricted access throughout the passenger area, in the context of the SLF Sub-Committee's work on guidance on the impact of open watertight doors on existing and new ships' survivability; and

.2 to submit a report to DE 53.

16 DEVELOPMENT OF A NEW FRAMEWORK OF REQUIREMENTS FOR LIFE-SAVING APPLIANCES

16.1 The Sub-Committee recalled that MSC 82 had considered a proposal by Japan to review the requirements for life-saving appliances in SOLAS chapter III and the LSA Code with a view to establishing a comprehensive new framework for these requirements and included the matter as a high-priority item in the work programme of the Sub-Committee, in cooperation with the FP and COMSAR Sub-Committees as deemed necessary. DE 51, taking into account a progress report on ongoing research regarding a new approach to the requirements for life-saving appliances submitted by Japan (DE 51/17), agreed to include the item in the provisional agenda for this session with a target completion date of 2012.

16.2 In this context, the Sub-Committee noted the Chairman's view that further technological development of life-saving appliances was only possible with a new, improved SOLAS chapter III, based on goals and functional requirements which should form the basis of the work, and, similar to SOLAS chapter II-2, also create a basis for the treatment of alternative designs and arrangements.

16.3 The Sub-Committee considered document DE 52/16 (Japan), providing draft goals and functional requirements for the regulations for life-saving appliances based on the goal-based concept, as set out in the annex to the document, and sorting the existing requirements in SOLAS chapter III, the LSA Code and the Code of practice for the evaluation, testing and acceptance of prototype novel life-saving appliances and arrangements (resolution A.520(13)) by functional requirements, as set out in the tables in the annex. Japan proposed that a correspondence group be established to commence work on the matter.

16.4 During the discussion, the goal-based approach proposed by Japan, including the formulation of goals and functional requirements, was supported by the Sub-Committee as a sound basis for the further work on the item. Specific comments, with regard to the matrix proposed in the Japanese submission, concerned lifejacket lights, in particular the fact that the visual means of detection only referred to novel life-saving appliances, and the inclusion of emergency support systems and safe escape.

16.5 Following discussion, the Sub-Committee invited submissions on the matter to DE 53 and, in particular, encouraged the delegation of Japan* to continue its work on the review of SOLAS

---

* **Focal point:**
Mr. K. Yoshida
Director, Centre for International Cooperation
National Maritime Research Institute, Japan
6-38-1, Sinkawa, Mitaka 181-0004, Japan
Tel.: +81 422 41 3615
E-mail: koichiy@nmri.go.jp

chapter III and the LSA Code, based on the development of goals and functional requirements for the regulations for life-saving appliances using the goal-based concept, in cooperation with other interested Member Governments and international organizations, as appropriate.

17 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

17.1 The Sub-Committee recalled that this was a continuous item on its work programme, established by MSC 78 so that IACS could submit any newly developed or updated unified interpretations for the consideration of the Sub-Committee with a view to developing appropriate IMO interpretations.

Interpretations of the Performance standard for protective coatings (PSPC)

17.2 The Sub-Committee considered document DE 52/17 (IACS), providing the text of IACS Unified Interpretation (UI) SC 223/Corr.1 which contains interpretations of the Performance standard for protective coatings (PSPC) for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers, adopted by resolution MSC.215(82).

17.3 During the ensuing discussion, while acknowledging that the UI contained useful guidance for the application of the PSPC, delegations made a number of comments and proposals for modifications, concerning, *inter alia*, the term "assistant inspectors", the use of rollers, the coating manufacturer approval, paint properties and infrared identification. In view of the above, the Sub-Committee agreed to note the IACS UI and take no further action on the matter at this stage.

17.4 The delegation of the Republic of Korea, thanking IACS for the submission of a valuable unified interpretation on the PSPC, pointed out an issue about the ambiguity of the meaning of the last sentence of the third paragraph on page 12 of the English version of the UI. The last sentence, i.e. "A roller may be used for scallops, ratholes, etc., but not for edges and welds.", could be interpreted as advisory because the word "may" had been used in the sentence. However, in the view of the delegation, this sentence, at the same time, could arguably be interpreted as mandatory and, therefore, in order to avoid this ambiguity, they proposed that the sentence be deleted from the UI.

Interpretations for the application of SOLAS regulations to major conversions of single-hull tankers to double-hull tankers or bulk carrier/ore carriers

17.5 The Sub-Committee considered document DE 52/17/1 (IACS), containing the text of IACS Unified Interpretations for the application of SOLAS regulations to major conversions of single-hull tankers to double-hull tankers or bulk carrier/ore carriers.

17.6 Recalling that MSC 85 had included in the work programme of the Sub-Committee a new item on "Interpretation on application of SOLAS, MARPOL and Load Line requirements for major conversions of oil tankers" which was also covering the above issue, the Sub-Committee agreed to defer consideration of the interpretations to a time when the item had been included in the provisional agenda of the Sub-Committee (see paragraph 18.2 and annex 17).

Interpretation on the implementation of SOLAS regulation II-1/27.5

17.7 The Sub-Committee considered document DE 52/17/2 (IACS), providing an IACS Unified Interpretation on the implementation of SOLAS regulation II-1/27.5 regarding machinery automatic shut-off arrangements and, concurring with the interpretation, agreed to a draft MSC circular on Unified interpretation of SOLAS regulation II-1/27.5, set out in annex 16, for submission to MSC 87 for approval.

Use of a knotted rope as a means of embarkation

17.8 The Sub-Committee noted document DE 52/17/3 (IACS), informing it that IACS had revised their Unified Interpretation SC 213 to take account of the agreement at DE 51 that the use of a knotted rope is not an acceptable means of embarkation in terms of enabling descent from a remotely located survival craft to the water in a controlled manner.

Conditions applied to assess the capability of liferafts to float free

17.9 The Sub-Committee considered document DE 52/17/4 (IACS), requesting it to consider the conditions applied to assess the capability of liferafts to float free as a ship sinks, under the provisions of SOLAS regulation III/13.4.2, in order to provide for a globally consistent approach to assess float-free capabilities of liferafts and implementation of the above SOLAS regulation, and assist IACS in the development of a relevant IACS UI, which would be submitted to the Sub-Committee for consideration at a future session. The Sub-Committee agreed that this was an important matter that needed to be further addressed and invited interested Member Governments to submit to the Committee relevant proposals for a new work programme item, in accordance with the Guidelines on the organization and method of work.

Effective dates for amendments to SOLAS chapter III, the FSS Code and the LSA Code

17.10 The Sub-Committee considered document DE 52/17/5 (IACS), requesting it to consider IACS' draft understandings, as provided in annex 1 to their document, regarding the effective dates for amendments to SOLAS chapter III, the FSS Code and the LSA Code contained in resolutions MSC.216(82), MSC.217(82), MSC.218(82), MSC.201(81), MSC.207(81) and MSC.272(85), and noting the proposed understanding and that, while some delegations found clarification to be useful, other delegations indicated that their Administrations did not need such an understanding, agreed to take no further action on the issue.

17.11 In this connection, the Sub-Committee noted that FP 53 had resolved this issue for the FSS Code (FP 53/WP.1, annexes 8 and 9) by preparing amendments to chapter 1 of the Code in order to make it clear that amendments to the Code should, unless expressed otherwise, apply only to ships constructed on or after the date on which the amendments enter into force.

Application of the PSPC to tanks not dedicated solely to the carriage of seawater ballast

17.12 The Sub-Committee considered document DE 52/17/6 (IACS), providing an IACS Unified Interpretation on the application of the Performance standard for protective coatings (PSPC) (resolution MSC.215(82)) to tanks that are not dedicated solely to the carriage of seawater ballast and, having supported the interpretation in principle, agreed to take no further action on the matter.

18 WORK PROGRAMME AND AGENDA FOR DE 53

Draft revised work programme and draft provisional agendas for DE 53 and DE 54

18.1 The Sub-Committee revised its work programme (DE 52/WP.6), based on that approved by MSC 85 (DE 52/2/2, annex) and, taking into account the progress made during this session, prepared the draft revised work programme and the draft provisional agendas for DE 53 and DE 54, noting that MSC 85 had agreed to the holding of two sessions of the Sub-Committee in 2010, subject to the approval of the Council. While reviewing the work programme, the Sub-Committee agreed to invite the Committee and the MEPC, as appropriate, to:

.1 delete the following work programme items, as work on them has been completed:

.1.1 item H.5 – Test standards for extended service intervals of inflatable liferafts;

.1.2 item H.6 – Amendments to the Guidelines for ships operating in Arctic ice-covered waters;

.1.3 item H.7 – Revision of the Code on Alarms and Indicators;

.1.4 item H.8 – Amendments to the MODU Code;

.1.5 item H.9 – Guidelines for uniform operating limitations of high-speed craft;

.1.6 item H.10 – Guidelines for maintenance and repair of protective coatings; and

.1.7 item H.14 – Improved safety of pilot transfer arrangements;

.2 include, in the work programme, the following new items, taking into account the justification provided:

.2.1 item L.5 – Revision of the provisions for helicopter facilities in SOLAS and the MODU Code, with two sessions needed to complete the item; and

.2.2 item L.6 – Development of a Code for ships operating in polar waters, with three sessions needed to complete the item;

.3 extend the target completion date for the following work programme items:

.3.1 item H.1 – Amendments to resolution A.744(18), to 2010;

.3.2 item H.12 – Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation, to 2010; and

.3.3 item H.15 – Cargo oil tank coating and corrosion protection, to 2009;

.4 replace the number of sessions needed for completion with a target completion date, for the following work programme items:

.4.1 item H.17 – Protection against noise on board ships 2010;

.4.2 item H.18 – Thermal performance of immersion suits 2010;

.4.3 item H.19 – Amendments to the Revised recommendation on testing of life-saving appliances 2010;

.4.4	item H.20 –	Safety provisions applicable to tenders operating from passenger ships	2011;
.4.5	item H.21 –	Alternative arrangements for the bottom inspection requirements for passenger ships other than ro-ro passenger ships	2010;
.4.6	item H.22 –	Classification of offshore industry vessels and consideration of the need for a code for offshore construction support vessels	2010;
.4.7	item H.23 –	Interpretation on application of SOLAS, MARPOL and Load Line requirements for major conversions of oil tankers	2010;

.5 renumber the work programme items accordingly.

18.2 The Committee was invited to approve the draft revised work programme and draft provisional agenda for DE 53, both set out in annex 17.

High-level Action Plan of the Organization and priorities for the 2008-2009 biennium

18.3 The Sub-Committee agreed to the status of the planned outputs of the High-level Action Plan of the Organization and priorities for the 2008-2009 biennium relevant to the work of the Sub-Committee, as set out in annex 18, for submission to MSC 86 for endorsement.

18.4 With regard to the Strategic Plan for the Organization (for the six-year period 2008-2013) and the High-level Action Plan of the Organization and priorities for the 2008-2009 biennium, the Sub-Committee noted, in the context of recommendations for necessary action endorsed by the Council, that:

.1 all IMO organs should, sufficiently early in their agendas for each session, set aside adequate time for the systematic consideration of the high-level actions and their associated priorities, and their connection to the strategic directions;

.2 when considering the work programmes and provisional agendas for their next sessions, all IMO organs should, under each item, cross-reference the related strategic directions and high-level actions; and

.3 Sub-Committees should, in reporting to the Committees on their work programmes, report on the status of their planned outputs.

18.5 The Sub-Committee also noted that MSC 84 had agreed to the following procedure for reporting on the status of the planned outputs:

.1 the Sub-Committees, at each respective session, should prepare and annex to their respective reports a report on the status of their planned outputs in the High-level Action Plan for the respective biennium in the format proposed in the annex to document STW 39/WP.1, for the Committee's consideration and endorsement; and

.2 regarding the terminology to be used to describe the status of the planned outputs, the term "ongoing" should not be used, actual progress of work must be reflected and, in addition, the status of work on the long-term work programmes should also be provided.

18.6 The Sub-Committee further noted that MSC 84 had agreed that, if the Strategic Plan and the table of planned outputs are to be used to manage the work programme of the Committees and sub-committees, then proper guidelines should be developed and the Committees' Guidelines should be reviewed accordingly. In this context, the Sub-Committee also noted that the Committee had agreed that the agenda management procedure specified in paragraphs 3.13 to 3.25 of the Committees' Guidelines should be applied so that the agendas of all the sub-committees are manageable.

Arrangements for the next session

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

.1 life-saving appliances, including measures to prevent accidents with lifeboats and performance standards for recovery systems;

.2 cargo oil tank coating and corrosion protection;

.3 alternative arrangements for the bottom inspection requirements for passenger ships other than ro-ro passenger ships;

.4 safety provisions applicable to tenders operating from passenger ships; and

.5 interpretation on application of SOLAS, MARPOL and Load Line requirements for major conversions of oil tankers.

18.8 The Sub-Committee established correspondence groups on the following subjects, due to report to DE 53 and DE 54, as appropriate:

1 amendments to resolution A.744(18). The correspondence group was instructed to start its work only after the deadline for submission of bulky documents to DE 53, i.e. 20 November 2009, and to report to DE 54;

.2 life-saving appliances, including measures to prevent accidents with lifeboats and performance standards for recovery systems, to report to DE 53;

.3 guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation, to report to DE 53; and

.4 cargo oil tank coating and corrosion protection, to report to DE 53.

18.9 The Sub-Committee noted that its fifty-third session had been tentatively scheduled to take place from 22 to 26 February 2010 and its fifty-fourth session from 25 to 29 October 2010.

18.10 Noting the close proximity between DE 53 (February 2010) and MSC 87 (May 2010), the Sub-Committee invited MSC 86 to agree that, in addition to its work programme and agenda for DE 53, the outcome of DE 53 on the following items should be urgent matters to be considered at MSC 87:

.1 measures to prevent accidents with lifeboats;

.2 performance standards for recovery systems;

.3 cargo oil tank coating and corrosion protection; and

.4 alternative arrangements for the bottom inspection requirements for passenger ships other than ro-ro passenger ships.

19 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2010

19.1 In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mrs. Anneliese Jost (Germany) as Chairman and elected Dr. Susumu Ota (Japan) as Vice-Chairman, both for 2010.

Expression of appreciation

19.2 The Sub-Committee expressed its gratitude to its outgoing Vice-Chairman, Mrs. Xiang Yang (China) for her long, outstanding and exemplary service and wished her a long and happy retirement.

20 ANY OTHER BUSINESS

Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels

20.1 The Sub-Committee recalled that DE 51 had briefly considered, as requested by SLF 50, draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels, in particular the preamble and chapters 1, 2, 4, 6 and 7 thereof, as presented in documents DE 51/25 and DE 51/25/Add.1. Noting that the target completion date of the SLF Sub-Committee for the completion of the Safety Recommendations was 2010, DE 51 agreed to consider the matter further at this session and invited Member Governments and international organizations to submit relevant comments and proposals.

20.2 The Sub-Committee considered document DE 52/20/6 (FAO), providing a proposal for amendments to the recommended construction standards for wooden and GRP fishing vessels, currently contained in Annexes II and III of the draft Safety recommendations.

20.3 The Sub-Committee noted in this regard a statement by the delegations of Chile and Uruguay, advising it that in the Spanish version of the document many drawings and tables had not been translated into Spanish. The Sub-Committee agreed to recommend to the SLF Sub-Committee to ensure that the final version of the Safety recommendations, once finalized by the Sub-Committee, should be made available in the Spanish language in its totality.

20.4 Following a brief discussion, the Sub-Committee established a working group and instructed it to review the ship design and equipment related aspects of the draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked

fishing vessels, as contained in documents DE 51/25, DE 51/25/Add.1 and DE 52/20/6 and prepare modifications to the draft Safety recommendations, as appropriate.

20.5 Having considered the report of the working group (DE 52/WP.3), the Sub-Committee agreed to the modifications to the draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels, prepared by the group (DE 52/WP.3, annex) for referral to SLF 52 for appropriate action and requested the Secretariat to act accordingly.

Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways

20.6 The Sub-Committee recalled that MSC 84 had adopted new SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships), as prepared by DE 50. However, when considering the associated draft Guidelines for construction, maintenance and inspection of accommodation ladders and gangways, MSC 84, taking into account document MSC 84/3/6 (Australia, Republic of Korea and IACS) proposing modifications, realized that these modifications would result in substantial changes to the draft Guidelines and, therefore, did not approve them. Instead, MSC 84 instructed the Sub-Committee to review them, taking into account the proposed modifications, and submit a revised version to MSC 86 for approval.

20.7 The Sub-Committee also recalled that MSC 84, when considering the report of its Drafting Group on Amendments to Mandatory Instruments (MSC 84/WP.3, annex 10), had noted that the group had preliminarily reviewed the draft Guidelines and had endorsed the group's recommendation that the modified draft Guidelines be forwarded to the Sub-Committee for appropriate action.

20.8 The Sub-Committee had for its consideration documents DE 52/20/Rev.1 (Secretariat), containing the draft Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways, as revised at MSC 84, and document DE 52/20/2 (Australia, Republic of Korea and IACS), containing updated draft Guidelines, which took into account the proposals for amendments contained in documents DE 52/20/Rev.1 and MSC 84/3/6.

20.9 Using the updated text of the draft Guidelines annexed to document DE 52/20/2 as the basis, the Sub-Committee finalized the draft Guidelines and agreed to the draft MSC circular on Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways, as set out in annex 19, for submission to MSC 86 for approval.

Alternative arrangements for bottom inspection requirements for passenger ships other than ro-ro passenger ships

20.10 The Sub-Committee recalled that MSC 84 had considered document MSC 84/22/10 (Bahamas), proposing to develop guidelines to ensure that sound technical judgement is exercised by Administrations which allow their passenger ships (other than ro-ro passenger ships) to have an inspection of the outside of the ship's bottom carried out in water, rather than in dry-dock, and to ultimately amend the Survey Guidelines under the HSSC (resolution A.997(25)) to explain the possibility of alternative arrangements where one bottom inspection in dry-dock may be substituted by a bottom inspection with the ship in water. Subsequently, MSC 84 included in the work programme of the Sub-Committee a high-priority item on "Alternative arrangements for bottom inspection requirements for passenger ships other than ro-ro passenger ships" and also instructed the FSI Sub-Committee to develop appropriate amendments to the Survey Guidelines.

20.11 The Sub-Committee also recalled that MSC 85, considering a proposal by CLIA (MSC 85/10/2) to request the FSI Sub-Committee to start developing draft amendments to the Survey Guidelines prior to the development of guidelines by the DE Sub-Committee, had noted the decision by FSI 16 to await the outcome of the discussion of the DE Sub-Committee on the technical aspects and had agreed that only if the DE Sub-Committee could complete its work on this matter at DE 52, FSI 17 would, then, be requested to develop related amendments to the Survey Guidelines for approval by MSC 86 and MEPC 59, before consideration by A 26 for adoption.

20.12 The Sub-Committee had for its consideration documents DE 52/20/4 and DE 52/INF.3 (Bahamas, Marshall Islands, CLIA, ICS), containing a draft circular on Guidelines for the assessment of technical provisions for the acceptance of one bottom inspection in dry-dock in five years for passenger ships other than ro-ro passenger ships, developed to enable prompt review and comment by the Sub-Committee in order to provide FSI 17 with adequate information to consider appropriate amendments to the Survey Guidelines, and providing information on the practice that exists in the cruise industry pertaining to the inspection of the outside of the ship's bottom, and which is supported by classification requirements and approved by a number of flag Administrations as an alternative to inspection in dry-dock.

20.13 In the ensuing discussion, a number of delegations raised concerns regarding the draft Guidelines, stressing that the proposed substitution of a dry-dock inspection with an in-water inspection should only be allowed for intermediate surveys and that this should be made clear in the Guidelines. Also, questions were raised as to why this should only apply to conventional passenger ships below 16 years of age and not to other types and ages of ships. The need for inclusion of a new section on survey planning was also pointed out, as well as the fact that certain inspections would only be possible in dry-dock.

20.14 The observer from IACS stated that they supported the proposal in document DE 52/20/4 in general and offered the following comments and suggestions, with reference to specific sections of the draft Guidelines:

.1 a new section on planning should be inserted, stating that the equipment and the procedure for observing and reporting the survey should be agreed by all parties involved prior to the underwater survey, and suitable time should be allowed for the diving company to test all the equipment beforehand;

.2 the hull and appendages and fittings below the waterline should be sufficiently clean for assessment of their condition and the coating (section 4);

.3 the Administration may request to be informed of the results of all in-water surveys (section 5); and

.4 rudders and rudder pintles should be thoroughly inspected, and the clearance of the rudder bearings should be ascertained and recorded, every five years in dry-dock (section 8).

20.15 Consequently, the Sub-Committee agreed that further consideration of the matter was necessary and included the item on "Alternative arrangements for bottom inspection requirements for passenger ships other than ro-ro passenger ships" in the provisional agenda for DE 53, also agreeing that a working or drafting group could be established at that session to conclude the matter. The Secretariat was requested to inform the FSI Sub-Committee of the outcome of the above considerations.

Improved safety of pilot transfer arrangements

20.16 The Sub-Committee recalled that MSC 82, following consideration of document MSC 82/21/17 (Brazil, United States and IMPA) which expressed concern over continued loss of life or serious injury suffered by pilots in the course of transferring to ships and proposed that amendments to SOLAS regulation V/23 and resolution A.889(21) on Pilot transfer arrangements should be developed to improve the safety of pilot transfer operation using ladders, had included in the NAV and DE Sub-Committees' work programmes a high-priority item on "Improved safety of pilot transfer arrangements", with two sessions needed to complete the item, and assigned the NAV Sub-Committee as the coordinator.

20.17 The Sub-Committee noted that NAV 54 had started work on the issue and had established a correspondence group which was instructed to further develop proposed amendments to SOLAS regulation V/23 and resolution A.889(21) on Pilot transfer arrangements. In view of the urgency of the matter, the NAV Sub-Committee intends to finalize the work at NAV 55 so that the revised SOLAS regulation and Assembly resolution could be adopted at A 26.

20.18 The Sub-Committee had for its consideration the interim report of the Correspondence Group on Pilot Transfer Arrangements established by NAV 54 (DE 52/20/1), containing at annexes 1 and 2 the proposed draft revisions to SOLAS regulation V/23 and resolution A.889(21), respectively, for the consideration of the Sub-Committee.

20.19 During the discussion, the Sub-Committee noted the following comments with regard to the proposed amendments to SOLAS regulation V/23 (DE 52/20/1, annex 1):

.1 the proposed prohibition of mechanical pilot hoists was supported, provided that a suitable phase-in for existing ships that have such hoists fitted was agreed, whilst one delegation expressed concerns regarding such prohibition;

.2 a concern was expressed regarding the proposed cut back of rubbing bands as this would lead to an inappropriate reduction in defence against ship side damage;

.3 while some delegations supported the fixing of the lower end of pilot ladders to the ship's side, with the change of the phrase "lower platform" to "lower portion", one delegation suggested that this could cause practical difficulties;

.4 the requirement to specify the expiry date of ropes used on the ladder was not realistic since that information was not available;

.5 new SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships), adopted by resolution MSC.256(84) and expected to enter into force on 1 January 2010, should be used when referring to accommodation ladders;

.6 the application of the proposed amendments to all ships should be clarified and a phase-in period should also be considered; and

.7 the use of accommodation ladders for pilot access should be clarified;

and, with regard to the proposed amendments to resolution A.889(21) (DE 52/20/1, annex 2):

.8 the angle of slope of accommodation ladders not to be exceeded should be kept at 55° and not be changed to 45° as proposed;

.9 arrangements for the securing of the lower platform of accommodation ladders to the ship's side should be reconsidered;

.10 in paragraph 3.8, a cross reference to new SOLAS regulation II-1/3-9 concerning accommodation ladders should be added; and

.11 section 5 on access to deck should be reviewed in the context of the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation agreed earlier by the Sub-Committee (see paragraph 20.9).

20.20 The Sub-Committee agreed to forward the comments made, as outlined in paragraph 20.19 above, to the coordinator of the NAV Sub-Committee Correspondence Group on Pilot Transfer Arrangements, for consideration when finalizing its report and to NAV 55 for action as appropriate and requested the Secretariat to act accordingly.

20.21 In view of the above developments, the Sub-Committee considered that the work on the item had been completed and invited the Committee to delete the item from its work programme.

Proposed phase-out of existing pollution prevention equipment

20.22 The Sub-Committee recalled that DE 51 had considered the practicalities and a possible timescale for the proposed phase-out of equipment approved under the standards set out in resolutions MEPC.60(33) and A.586(14) and had invited Member Governments and interested organizations to submit relevant proposals to this session under this agenda item.

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

.1 DE 52/20/5 (United States), referring to their earlier proposal in document MEPC 56/6/2 for phasing-out existing pollution prevention equipment that is unable to meet the requirements of resolution MEPC.107(49) on Revised Guidelines for pollution prevention equipment for machinery space bilges of ships, and supporting a phase-out of non-complying equipment and an upgrading of existing equipment to meet the current standards. The United States is proposing that, in any upgrade, the equipment should necessarily be fitted with an MEPC.107(49) compliant oil content meter and that the test standard for existing equipment that has been upgraded with add-on equipment, i.e. the bilge separator and oil content meter, should be tested and certified as a complete assembly, through resolution MEPC.107(49);

.2 DE 52/20/14 (United States), attempting to address the practicalities and timescale for a proposed phase-out of pollution prevention equipment approved under resolution MEPC.60(33), whereby existing equipment should either be retrofitted and approved to MEPC.107(49) standards or replaced with new MEPC.107(49) approved equipment, and also proposing to establish a correspondence group to develop a standard for type approval of existing equipment which is being retrofitted;

.3 DE 52/20/15 (Sweden), proposing that, in any discussion on the upgrading of existing separators and appropriate standards and the time frame of such an upgrade, it should be considered to connect the enforcement of upgrading to the renewal of the IOPP certificate, i.e. the IOPP certificate should not, within the

time frame decided, be renewed before the existing bilge separation equipment has been upgraded, tested and type approved, in order to spread the upgrades within the time frame decided, thereby avoiding accumulation of upgrades at the end of the period of enforcement;

.4 DE 52/20/16 (ICS), expressing that there was not sufficient justification for the United States' proposals (DE 52/20/5) to phase out existing equipment in general. ICS felt that the performance of the same equipment can vary from ship to ship and that mandatory replacement of equipment that is performing adequately would place an unnecessary burden on industry with no additional actual environmental benefit. Also, since 1 January 2005, new installations of equipment on both existing and new ships are required to be in compliance with the new test standards (MEPC.107(49)), however, concerns have been raised as to the effectiveness of some equipment manufactured in compliance with the new standard and it was considered that it would be prudent to address such concerns prior to any further discussion of additional phase-in of this equipment; and

.5 DE 52/20/17 (Denmark), proposing to develop a supplementary test standard for type approval of add-on emulsion breaking devices which would ensure that such devices, intended to after-treat the effluent from an MEPC.60(33) approved oily water separator, attain an effluent standard similar to that of a fully certified MEPC.107(49) oily water separator. A scheme for such a test standard was attached to the proposal.

20.24 Many delegations and observers intervened in the ensuing debate and, whilst recognizing that there was merit in the proposal by the United States (DE 52/20/5), the majority of those who spoke could not agree with a mandatory phase-out of all existing equipment approved under resolution MEPC.60(33), as that would impose an excessive burden on industry and Administrations alike, when a compelling need for such a phase-out had not been demonstrated.

20.25 In the course of the discussion, however, the following points were made with a view to progressing the issue:

.1 the proposal by Denmark (DE 52/20/17) on a simplified test procedure for add-on equipment capable of breaking up emulsions that could supplement existing MEPC.60(33) compliant equipment might form the basis for a future mandatory upgrade of that equipment; however, further work should be carried out and proper justification, after a thorough research, should be provided;

.2 the issue of continuing illegal oily discharges was more related to engine-room management than to oily water separator technology. In that respect, the concept of the Integrated Bilge Water Treatment System (IBTS), incorporated in MEPC.1/Circ.642, should be promoted as a means to employ a holistic approach to address this matter; and

.3 more time and work were needed to reach an informed decision and, therefore, the inclusion of a dedicated item in the Sub-Committee's work programme and agenda could be the best way forward.

20.26 Following the Chairman's summing up on the above discussion, the Sub-Committee, noting that there was some support for an upgrade of existing oily water separation equipment, although further in-depth deliberation was needed, invited the MEPC to note the content of the

debate and take action as appropriate; and encouraged those Member Governments and observers who might wish to advance the issue, to do so intersessionally through a dedicated focal point*.

20.27 In addition, noting that the issue was not on the agenda or work programme of the Sub-Committee, but was merely considered under the agenda item on "Any other business", and that, therefore, no substantive work on the matter was possible and no correspondence group could be established, as proposed, the Sub-Committee invited interested Member Governments to submit relevant proposal(s) to the MEPC for the inclusion of a relevant new item(s) in the work programme and agenda of the Sub-Committee.

Guide to diagnosing contaminants in oily bilge water to maintain, operate and troubleshoot bilge water treatment systems

20.28 The Sub-Committee also considered document DE 52/20/3 (IMarEST), containing a Guide to diagnosing contaminants in oily bilge water to maintain, operate and troubleshoot bilge water treatment systems, developed by The Society of Naval Architects and Marine Engineers (SNAME) in order to address the most common system maintenance and operations problems leading to equipment failure and/or lack of port and shipboard engineers' confidence in, or understanding of, bilge water treatment systems.

20.29 The Sub-Committee further considered the part of document DE 52/20/16 (ICS) addressing the Guide, in which ICS supported the holistic approach presented, which would be needed to fully address the various elements and provide real improvements in pollution prevention with respect to engine-room bilge water. ICS considered that the framework provided in the Guide could provide the basis for taking the matter forward with an MEPC circular on the maintenance, operation and troubleshooting of bilge water treatment systems as a first step.

20.30 In the debate that followed, the Sub-Committee expressed appreciation for the work undertaken by IMarEST and SNAME, recognizing that the proposed Guide could be an excellent tool to help engine-room crews to comply with MARPOL requirements, although it was also acknowledged that further refinement might be needed before it could be disseminated as IMO guidance.

20.31 However, recognizing that this matter was not in its work programme and, therefore, preparation of an MEPC circular as requested by the submitters was not possible under the Committees' Guidelines, the Sub-Committee invited the MEPC to note the outcome of the debate and take action as appropriate; and encouraged interested Member Governments to invite the MEPC to include an appropriate item in the work programme and agenda of the Sub-Committee for further consideration at its next session.

---

* **Focal point:**
Mr. W. Lundy
Marine Safety, Security and Stewardship
Systems Engineering Division
Commandant (CG-5213)
U.S. Coast Guard
2100 Second Street, S.W.
Washington, D.C. 20593, United States of America
Tel: +1 202 372 1379
Fax: +1 202 372 1925
E-mail Wayne.M.Lundy@uscg.mil

Information concerning the fire on the ro-ro cargo ship "Und Adriyatik"

20.32 The Sub-Committee noted that FSI 16 (DE 52/2/3), having considered document FSI 16/6/2 (Croatia, Turkey) on the fire on board the ro-ro cargo ship **Und Adriyatik**, recommended that the appropriate course of action would be to follow the established procedures for the analysis of reports of investigations into casualties, and, in the interim, had requested the Secretariat to provide the information on the summary of events and preliminary findings (FSI 16/6/2, annex) to other relevant sub-committees for information, specifically requesting the DE Sub-Committee to note the issue of air supply to the engine-room.

20.33 In this connection, the Sub-Committee noted further information regarding the accident, provided by the delegation of Turkey, informing it that the **Und Adriyatik**, a ro-ro cargo ship, had a fire on board when it was 15 miles off the coast in the Northern Adriatic Sea in February 2008 and that Turkey as the flag State and Croatia as a coastal State had carried out the investigation into the accident, the preliminary findings of which had been submitted to FSI 16 (FSI 16/6/2). The delegation stated that, although there was no fire in the engine-room, it was filled with smoke in a short time due to the location of the engine-room main suction fan air intake between the main ro-ro deck and upper ro-ro deck, in the area where the fire started and, as a result, the emergency crew had to abandon the engine-room, the main and auxiliary engines stopped shortly afterwards due to the lack of oxygen, and then the fire pumps stopped. Turkey believed that focusing on this case would prevent similar accidents in the future, considering that **Und Adriyatik** had many sister vessels and there were many others with similar design. They further stated that the investigation of the accident had been concluded and the official final report would be submitted to IMO in due course.

20.34 Consequently, the Sub-Committee agreed to note the information provided for the time being, pending receipt of the final investigation report by the Organization.

Example of emergency towing procedures

20.35 The Sub-Committee recalled that MSC 84 had adopted amendments to SOLAS regulation II-1/3-4 (Emergency towing arrangements and procedures) and had approved Guidelines for owners/operators on preparing emergency towing procedures (MSC.1/Circ.1255) and that DE 50, recognizing that the SOLAS regulation and the Guidelines did not provide standard formats for emergency towing procedures, had invited Member Governments and international organizations to develop a workable example of emergency towing procedures and submit it for information.

20.36 In this context, the Sub-Committee noted document DE 52/INF.2 (Japan), informing it about a project on the development of an example of emergency towing procedures for a Panamax bulk carrier Japan had conducted, with the purpose to support shipowners/shipbuilders in the smooth development of emergency towing procedures to be included in the emergency towing booklet (ETB), scrutinizing the SOLAS requirements and the Guidelines to understand what information should be included in the ETB and taking into account actual emergency situations.

ICS Guide to Helicopter/Ship Operations

20.37 The Sub-Committee noted document DE 52/20/7 (ICS), informing it that, in December 2008, the fourth edition of the "Guide to Helicopter/Ship Operations" was published, which supersedes all previous versions of the Guide and has been updated with extensive guidance regarding the role and responsibilities of both the ship and helicopter, expanded definitions of helicopter performance and completely revised information regarding the location and marking of landing and winching areas to reflect the latest ICAO requirements.

Manually operated alternatives in the event of equipment malfunctions (resolution MEPC.108(49))

20.38 The Sub-Committee recalled that, at MEPC 58, Denmark (MEPC 58/6/2) had raised concern that in the event of certain equipment malfunctions it appears possible to discharge oil or oily mixtures from cargo tanks of oil tankers only with an ineffective visual control carried out by the crew and not by any other means to control the oil content for compliance with the established limits, which may lead to pollution of the sea. MEPC 58 shared this concern and instructed the Sub-Committee to review the Revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers (resolution MEPC.108(49)), taking into account the proposal by Denmark, and report back to MEPC 59.

20.39 The Sub-Committee considered document MEPC 58/6/2 (Denmark), suggesting that paragraph 6.11.1.1 of the Revised Guidelines and specifications should be deleted so as to avoid any uncontrolled discharge of oil, and in order to ensure compliance with MARPOL Annex I requirements.

20.40 In the ensuing debate, sympathy was shown for the concerns of Denmark, although it was pointed out by several delegations that, in the event of failure of the oil discharge monitoring and control system, regulation 31.2 of MARPOL Annex I allows for a manually operated alternative method to be used, provided the defective unit is made operable as soon as possible; and that paragraph 6.11.1.1 of the Revised Guidelines and specifications explained how such manual operation could be carried out as a pragmatic alternative in case of breakdown of the oil content meter or sampling system.

20.41 The Sub-Committee, recognizing that more work should be done on this matter, invited interested Member Governments to submit a relevant proposal to the MEPC for the inclusion of a new item in the work programme of the Sub-Committee.

Reduction in the volume of sludge from evaporation

20.42 The Sub-Committee noted that MEPC 58 (MEPC 58/23, paragraphs 10.35 to 10.38), on the issue of communicating guidance to seafarers who are already using evaporation from sludge tanks as a method of reducing sludge volumes, had approved circular MEPC.1/Circ.640 on Interim guidance on the use of the oil record book concerning voluntary declaration of quantities retained on board in oily bilge water holding tanks and heating of oil residue (sludge), advising that the proper way of recording such operations in the Oil Record Book was to utilize code letter C.12.4; and also on voluntary entries pertaining to the content of bilge tanks. MEPC 58 also agreed that the circular should be brought to the attention of the FSI Sub-Committee, in order to consider its alignment with port State control procedures.

20.43 The Sub-Committee also noted that MEPC 58, as an additional point, had noted that guidance was required as to what percentage reduction in the volume of sludge from evaporation should be accepted and, to address this issue, had referred this matter to the Sub-Committee for consideration.

20.44 Following a short debate, the Sub-Committee concluded that it was unrealistic to try to calculate a concrete percentage reduction figure as that would largely depend on the amount of water in the sludge which could vary greatly and invited the MEPC to note the above conclusion.

20.45 On a related matter, the Sub-Committee recalled that DE 51, having concerns over the safety issues associated with the heating of oil residue (sludge) to a level likely to be above its flashpoint as a method to reduce its water content, had requested the FP Sub-Committee to consider the issue and provide advice to the MEPC (DE 51/28, paragraph 18.16.8).

20.46 In that respect, the Sub-Committee noted an oral report by the Secretariat that FP 53 had recently considered the matter and had concluded that there was no need for additional safety measures associated with the heating of oil residue (sludge) and had requested the Secretariat to inform MEPC 59 accordingly (FP 53/23, paragraph 22.16.3).

Display of radar shadow sectors on the bridge

20.47 The Sub-Committee noted document DE 52/20/8 (France), concerning discrepancies in the provisions of the Survey Guidelines under the harmonized system of survey and certification, 2007, and SOLAS chapter V concerning the display of radar shadow sectors on the bridge. Noting that the issue raised concerned a navigational matter and as such does not fall under the remit of the DE Sub-Committee, the Sub-Committee agreed that the document should be referred to the NAV Sub-Committee for consideration and requested the Secretariat to act accordingly.

Amendments and interpretations to the 1994 and 2000 HSC Codes

20.48 The Sub-Committee considered the following documents:

.1 DE 52/20/9 (France), pointing out an inconsistency between amendments to the 1994 HSC Code concerning radiocommunication facilities adopted by MSC 82 and MSC 84 and proposing an amendment to paragraph 14.1 of the Code (paragraph 4 of the document) to resolve the matter;

.2 DE 52/20/10 (France), proposing an interpretation to the 1994 HSC Code (attached at annex to the document) concerning the application of chapter 14 carriage requirements for distress panels and distress alert panels; and

.3 DE 52/20/11 (France), proposing an amendment to paragraph 14.15.10 of the 2000 HSC Code (attached at annex to the document) concerning the testing of satellite EPIRBs on passenger craft.

20.49 The Sub-Committee, noting that the amendments in question were prepared by the COMSAR Sub-Committee and that the proposed interpretation also concerns a COMSAR matter, and that, therefore, the issues raised do not fall under the remit of the DE Sub-Committee, agreed that documents DE 52/20/9, DE 52/20/10 and DE 52/20/11 should be referred to the COMSAR Sub-Committee for action as appropriate and requested the Secretariat to act accordingly.

Application of amendments to the 2000 HSC Code to new and existing high-speed craft

20.50 The Sub-Committee considered the following documents:

.1 DE 52/20/12 (France), proposing an interpretation of the 2000 HSC Code concerning the application of the amendments to the Code, adopted by resolution MSC.222(82), to new and existing high-speed craft; and

.2 DE 52/20/13 (Norway, United Kingdom), proposing amendments to the foreword of the 2008 publication of the 2000 HSC Code in order to clarify the entry-into-force dates of the amendments and to raise awareness of the fact that certain amendments also apply to existing craft.

20.51 Following discussion, during which the interpretation and the change to the foreword were supported, the Sub-Committee agreed:

.1 to the draft MSC circular on Unified interpretation of the 2000 HSC Code, set out in annex 20, for submission to MSC 87 for approval; and

.2 to request the Secretariat to take appropriate action to amend the foreword to the 2008 edition of the 2000 HSC Code in line with the proposal in document DE 52/20/13.

Offshore industry vessels

20.52 Referring to the decision of MSC 85 to include a new item on "Classification of offshore industry vessels and consideration of the need for a code for offshore construction support vessels" in the work programme of the Sub-Committee, and in particular to the Committee's instruction to consider all other relevant codes with a view to avoid duplication, IMCA, in their document DE 52/INF.8, pointed out that, taking into account the variety of issues, technical and practical, a clarification of the existing IMO instruments would appear to be far more beneficial than the development of a specific new code, since the current situation could present industry and flag and coastal States with problems when trying to categorize some vessels into a specific classification. IMCA further informed that a working group was currently considering the various issues, such as, for example, the basis of factors used in stability calculations and any other inconsistencies that are identified; including studying definitions used in existing IMO instruments, including, but not limited to, definitions of personnel working aboard offshore construction support vessels.

20.53 The Sub-Committee noted IMCA's view and agreed to take document DE 52/INF.8 into account when the item on "Classification of offshore industry vessels and consideration of the need for a code for offshore construction support vessels" would have been included in the provisional agenda for a future session of the Sub-Committee (see paragraph 18.2 and annex 17).

Casualty of the "MSC Napoli"

20.54 The Sub-Committee considered document DE 52/20/18 (Secretariat), advising it that MSC 85 had referred the report on the investigation into the casualty of the **MSC Napoli** to DE 52 for review, in particular the issue of structural strength of containerships, and for reporting on their recommendations for further action to MSC 86.

20.55 In this connection, the Sub-Committee noted that the European Commission had expressed an interest in the casualty investigation and the follow-up of the casualty of the **MSC Napoli**, and had invited IACS to inform the Sub-Committee on the progress made on the review of IACS UR S11, concerning longitudinal strength standards, as recommended in the casualty investigation report. Noting that UR S11 only applies to 40% of the length of a ship, the European Commission suggested that the interpretation should be applied, whilst awaiting this review, for strength checks over the entire length of the ship.

20.56 The observer from IACS informed the Sub-Committee that the recommendations of the United Kingdom's Marine Accident Investigation Branch concerning the casualty of the **MSC Napoli** had been received by IACS and had been forwarded to the appropriate technical body of IACS for consideration which was currently deliberating the information; and that the results of the discussions would be communicated to the Organization in due course.

20.57 In view of the above, the Sub-Committee agreed to take no further action on the matter at this stage and invited MSC 86 to note the above information.

21 ACTION REQUESTED OF THE COMMITTEES

21.1 The Maritime Safety Committee, at its eighty-sixth session, is invited to:

.1 note the developments regarding amendments to the ESP Guidelines (resolution A.744(18)), in particular the Sub-Committee's decision to keep the structure of the Guidelines as closely as possible aligned with the IACS UR Z10 series in order to keep them simple and user friendly (paragraphs 3.5 to 3.7);

.2 approve, subject to MEPC's concurrent decision, the draft Assembly resolution on Adoption of the Code on Alerts and Indicators, 2009, for submission to the twenty-sixth session of the Assembly for adoption (paragraph 4.11 and annex 1);

.3 approve the draft Assembly resolution on Adoption of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009, for submission to the twenty-sixth session of the Assembly for adoption (paragraph 5.3 and annex 2);

.4 consider the justification for, and approve the inclusion in the Sub-Committee's work programme of, a new item on "Revision of the provisions for helicopter facilities in SOLAS and the MODU Code" (paragraph 5.5 and annex 3);

.5 approve the draft MSC circular on Clarification of SOLAS regulation III/19 providing guidance on lifeboat launching during abandon ship drills (paragraph 6.22 and annex 4);

.6 approve the draft amendments to the LSA Code concerning new requirements for on-load release mechanisms and the assumed weight of persons to be applied to liferafts, with a view to adoption at MSC 87 (paragraphs 6.30 and 7.6 and annex 5);

.7 approve the draft amendments to SOLAS chapter III concerning replacement of existing on-load release mechanisms, with a view to adoption at MSC 87 (paragraph 6.32 and annex 6);

.8 approve the draft MSC circular on Guidelines for the fitting and use of fall preventer devices (FPDs) (paragraph 6.37 and annex 7);

.9 approve draft circular MSC.1/Circ.1206/Rev.1 on Measures to prevent accidents with lifeboats (paragraph 6.39 and annex 8);

.10 approve the draft amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)) concerning the increase in the assumed weight of persons to be applied to LSA, with a view to adoption at MSC 87, together with the associated amendments to the LSA Code referred to in subparagraph .6 above (paragraph 7.6 and annex 9);

.11 approve the draft MSC circular on Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months (paragraph 8.6 and annex 10);

.12 approve, subject to MEPC's concurrent decision, the draft Assembly resolution on Adoption of the Guidelines for ships operating in polar waters, for submission to the twenty-sixth session of the Assembly for adoption (paragraph 9.30 and annex 11);

.13 consider the justification for, and approve the inclusion in the Sub-Committee's work programme of, a new item on "Development of a Code for ships operating in polar waters", bearing in mind that the Sub-Committee may need to consult with the MEPC on environmental issues (paragraph 9.31 and annex 12);

.14 approve the draft MSC circular on Guidelines for uniform operating limitations of high-speed craft (paragraph 11.7 and annex 13);

.15 approve the draft MSC circular on Guidelines for maintenance and repair of protective coatings (paragraph 12.8 and annex 14);

.16 approve the draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers, with a view to adoption at MSC 87 together with the associated Performance standard referred to in subparagraph .17 below (paragraph 14.7 and annex 15);

.17 note that the Sub-Committee agreed to finalize the draft Performance standard for protective coatings for cargo oil tanks of crude oil tankers and the draft Performance standard for alternative means of corrosion protection for cargo oil tanks of crude oil tankers at DE 53, so that they can be adopted at MSC 87 together with the draft new SOLAS regulation on Corrosion protection of cargo oil tanks of crude oil tankers making them mandatory (paragraph 14.13);

.18 approve the proposed revised work programme of the Sub-Committee and the provisional agenda for DE 53 (paragraph 18.2 and annex 17);

.19 endorse the status of the planned outputs of the High-level Action Plan of the Organization and priorities for the 2008-2009 biennium relating to the work of the Sub-Committee (paragraph 18.3 and annex 18);

.20 note that the Sub-Committee finalized modifications to the draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels, for referral to SLF 52 for action as appropriate (paragraphs 20.3 and 20.5);

.21 approve the draft MSC circular on Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways (paragraph 20.9 and annex 19);

.22 note that the Sub-Committee prepared comments and proposals concerning improved safety of pilot transfer arrangements, for referral to the NAV Sub-Committee's Correspondence Group on Pilot Transfer Arrangements for consideration and to NAV 55 for action as appropriate (paragraph 20.20); and

.23 note the Sub-Committee's outcome on the casualty of **MSC Napoli**, in particular that the Sub-Committee agreed to take no further action on the matter at this stage (paragraphs 20.54 to 20.57).

21.2 The Maritime Safety Committee, at its eighty-seventh session, is invited to:

.1 approve the draft MSC circular on Unified interpretation of SOLAS regulation II-1/27.5 (paragraph 17.7 and annex 16);

.2 approve the draft MSC circular on Interpretation of the 2000 HSC Code (paragraph 20.51.1 and annex 20);

.3 note the decision of the Sub-Committee to request the Secretariat to take appropriate action to amend the foreword to the 2008 edition of the 2000 HSC Code (paragraph 20.50.2); and

.4 approve the report in general.

21.3 The Marine Environment Protection Committee, at its fifty-ninth session, is invited to:

.1 approve, subject to MSC's concurrent decision, the draft Assembly resolution on Adoption of the Code on Alerts and Indicators, 2009, for submission to the twenty-sixth session of the Assembly for adoption (paragraph 4.11 and annex 1);

.2 approve, subject to MSC's concurrent decision, the draft Assembly resolution on Guidelines for ships operating in polar waters, for submission to the twenty-sixth session of the Assembly for adoption (paragraph 9.30 and annex 11);

.3 note the outcome of the discussion on the proposed phase-out of pollution prevention equipment approved under resolutions MEPC.60(33) and A.586(14), in particular the Sub-Committee's view that further in-depth deliberation of the issue was needed, and take action as appropriate (paragraphs 20.22 to 20.27);

.4 note the outcome of the discussion on the Guide to diagnosing contaminants in oily bilge water to maintain, operate and troubleshoot bilge water treatment systems, in particular the Sub-Committee's view that the proposed Guide could be an excellent tool to help engine-room crews to comply with MARPOL requirements, and take action as appropriate (paragraphs 20.28 to 20.31);

.5 note the outcome of the discussion on manually operated alternatives in the event of equipment malfunctions (resolution MEPC.108(49)), in particular the Sub-Committee's view that further in-depth deliberation of the issue was needed, and take action as appropriate (paragraphs 20.38 to 20.41); and

.6 note the Sub-Committee's conclusion, concerning the issue of an acceptable percentage reduction in the volume of sludge from evaporation, that it would be unrealistic to calculate a such percentage reduction as it would largely depend on the amount of water in the sludge (paragraphs 20.42 to 20.46).

***

ANNEX 1

DRAFT ASSEMBLY RESOLUTION

ADOPTION OF THE CODE ON ALERTS AND INDICATORS, 2009

(The text of this annex is reproduced in document DE 52/21/Add.1)

***

ANNEX 2

DRAFT ASSEMBLY RESOLUTION

ADOPTION OF THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS (MODU CODE), 2009

(The text of this annex is reproduced in document DE 52/21/Add.1)

***

ANNEX 3

JUSTIFICATION FOR NEW WORK PROGRAMME ITEM ON "REVISION OF THE PROVISIONS FOR HELICOPTER FACILITIES IN SOLAS AND THE MODU CODE"

Scope of the proposal

1 ICAO is currently working on further amendments to Annex 14 (Aerodromes), Volume II (Heliports), of the ICAO Convention, which will have an impact on the helicopter provisions in the MODU Code, as well as on the relevant helicopter requirements in SOLAS regulations II-2/18 and III/28. These amendments are expected to be adopted by ICAO in 2011 and would then require amendments to the relevant requirements in SOLAS and the MODU Code to align them with the ICAO provisions.

Compelling need

2 It needs to be ensured that provisions of relevant IMO instruments are in line with the provisions of other UN agencies, in this case ICAO.

Analysis of the issues involved, having regard to the costs to the maritime industry and global legislative and administrative burdens

3 The relevant ICAO provisions will have to be studied and incorporated in the MODU Code and SOLAS regulations II-2/18 and III/28. The cost or administrative or legal burden will be the same as for any implementation of amendments to IMO instruments.

Benefits which would accrue from the proposal

4 Administrations can be sure that helicopter provisions implemented on their flag ships and MODUs are in line with relevant ICAO provisions.

Priority and target completion date

5 The item should have a low priority and should be included in the provisional agenda only once ICAO has adopted the relevant amendments to Annex 14 of the ICAO Convention.

It is expected that two sessions will be needed to properly consider this matter.

Specific indication of action required

6 Development of a set of amendments to SOLAS and the MODU Code.

Remarks on the criteria for general acceptance

7 The subject of the proposal is within the scope of IMO's objectives, as it aims at aligning requirements of SOLAS and the MODU Code with the most recent requirements of the ICAO Convention.

The item is within item 1.1 of the Strategic plan for the Organization and item 1.3.5 of the High-level Action Plan.

It is believed that the benefits do justify the proposed action.

Identification of which subsidiary bodies are essential to complete the work

8 The work should be accomplished by the DE Sub-Committee in cooperation with the FP Sub-Committee.

***

ANNEX 4

DRAFT MSC CIRCULAR

CLARIFICATION OF SOLAS REGULATION III/19

1 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], having considered a recommendation made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session, agreed that there was a need to clarify the application of SOLAS regulation III/19.3.3.3.

2 SOLAS regulation III/19.3.3.3 requires each lifeboat to be launched, and manoeuvred in the water by its assigned operating crew, at least once every three months during an abandon ship drill. However, the regulation, whilst requiring each lifeboat to be manoeuvred in the water by its assigned operating crew, does not require the assigned operating crew to be on board when the lifeboat is launched.

3 The Committee, therefore, agreed that the assigned operating crew should not be required to be on board lifeboats during launching, unless the master, within the authority conferred to him by paragraph 5.5 of the ISM Code, considered, taking into account all safety aspects, that the lifeboat should be launched with the assigned operating crew on board.

4 Member Governments are invited to use the above clarification when applying the requirements of SOLAS regulation III/19, and bring it to the attention of all parties concerned and, in particular, port State control officers.

***

ANNEX 5

DRAFT AMENDMENTS TO THE INTERNATIONAL LIFE-SAVING APPLIANCES (LSA) CODE

CHAPTER IV
SURVIVAL CRAFT

1 In paragraph 4.2.2.1, the figure "75 kg" is replaced by the figure "82.5 kg".

2 In paragraph 4.2.3.3, the figure "75 kg" is replaced by the figure "82.5 kg".

3 In paragraph 4.3.3.3, the figure "75 kg" is replaced by the figure "82.5 kg".

4 In paragraph 4.4.7.6, after the existing subparagraph .1, the following new subparagraphs are inserted:

".2 the mechanism shall be designed so that the hook and locking mechanism remains fully closed under any operational conditions until it is deliberately caused to open by means of the operating mechanism.

.1 For designs utilizing a hook tail and cam, the mechanism shall continue to comply with this requirement through a rotation of the cam of up to 45° in either direction from its locked position;

.3 the mechanism shall be designed so that, when it is fully reset in the closed position, the weight of the lifeboat does not cause any force to be transmitted to the operating mechanism, which could cause the inadvertent release of the lifeboat;

.4 locking devices shall be designed so that they can not turn to open due to forces from the hook load;

.5 if a hydrostatic interlock is provided, it shall automatically reset upon lifting the boat from the water;"

5 In paragraph 4.4.7.6, the existing subparagraph .2 is replaced by the following:

".6 the mechanism shall have two release capabilities: normal (off-load) release capability and on-load release capability:

.6.1 normal (off-load) release capability shall release the lifeboat when it is waterborne or when there is no load on the hooks, and not require manual separation of the lifting ring or shackle from the jaw of the hook; and

.6.2 on-load release capability shall release the lifeboat with a load on the hooks. This release shall be so arranged as to release the lifeboat under any conditions of loading from no load with the lifeboat waterborne to a load of 1.1 times the total mass of the lifeboat when loaded with its full

complement of persons and equipment. This release capability shall be adequately protected against accidental or premature use. Adequate protection shall include special mechanical protection not normally required for off-load release, in addition to a danger sign. The release mechanism shall be provided with a hydrostatic interlock unless other means are provided to indicate that the boat is waterborne. To prevent a premature on-load release, on-load operation of the release mechanism shall require deliberate and sustained action or actions by the operator;"

6 In paragraph 4.4.7.6, the existing subparagraph .3 is renumbered as subparagraph .7 and the following new subparagraph .8 is inserted:

".8 all components of the hook unit, release handle unit, control cables or mechanical operating links and the fixed structural connections in a lifeboat shall be of material corrosion resistant in the marine environment without the need for coatings or galvanizing. Design and manufacturing tolerances shall be such that anticipated wear throughout the service life of the mechanism shall not adversely affect its proper functioning. Mechanical operating links such as control cables shall be waterproof and shall have no exposed or unprotected areas;"

7 In paragraph 4.4.7.6, the existing subparagraphs .4 to .9 are renumbered as subparagraphs .9 to .14, respectively.

8 In paragraph 4.4.7.6, in the renumbered subparagraph .13, the words "the load-bearing components of the release mechanism and" are inserted in the beginning and the words "of the release mechanism" after the words "the fixed structural connections" are deleted.

9 In paragraph 4.4.7.6, in the renumbered subparagraph .14, the references to paragraphs 4.4.7.6.2.2 and 4.4.7.6.3 are replaced by references to paragraphs 4.4.7.6.6.2 and 4.4.7.6.7.

***

ANNEX 6

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

CHAPTER III
LIFE-SAVING APPLIANCES AND ARRANGEMENTS

Regulation 1 – Application

1 The following new paragraph 1.5 is added after the existing paragraph 1.4:

"1.5 For all ships, not later than the first scheduled dry-docking after [date], lifeboat on-load release mechanisms not complying with paragraphs 4.4.7.6.3 to 4.4.7.6.5 of the Code shall be replaced with equipment that complies with the Code.*"

---

* Refer to the guidelines to be developed by the Organization.

***

ANNEX 7

DRAFT MSC CIRCULAR

GUIDELINES FOR THE FITTING AND USE OF FALL PREVENTER DEVICES (FPDs)

1 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], approved the Guidelines for the fitting and use of fall preventer devices (FPDs), set out in the annex, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session.

2 The use of FPDs should be considered as an interim risk mitigation measure, only to be used in connection with existing on-load release hooks, at the discretion of the master, pending the wide implementation of improved hook designs with enhanced safety features.

3 Member Governments are invited to use the annexed Guidelines when approving the use of fall preventer devices (FPDs), and to bring them to the attention of all parties concerned.

ANNEX

GUIDELINES FOR THE FITTING AND USE OF FALL PREVENTER DEVICES (FPDs)

1 Background

1.1 In 1986, on-load release hooks for lifeboats and rescue boats were made mandatory in the SOLAS Convention, in response to Norway's worst offshore accident in March 1980, when the **Alexander Kielland** platform in the North Sea Ekofisk field capsized, killing 123 of the 212 persons on board. These then new SOLAS requirements were considered an important step forward in lifeboat design.

1.2 Some deaths in that accident were attributed to the fact that the lifeboat had no means of release when its weight was on the hook and falls. Therefore, on-load release systems were seen to offer benefits.

1.3 Since the IMO requirements for all ships to be fitted with on-load release systems came into force, there have been a number of serious accidents during drills and servicing.

1.4 Many of these accidents were attributed to either lack of maintenance, poor design or inadequate training. Failures of equipment can result in the premature opening of the on-load hook mechanism, causing the lifeboat to fall from the davits unexpectedly, even with three safety interlocks provided for in the design.

1.5 A number of current designs of on-load release hooks are designed to open under the effect of the lifeboat's own weight and often need to be held closed by the operating mechanism. This means that any defects or faults in the operating mechanism, errors by the crew or incorrect resetting of the hook after being previously operated, can result in premature release.

1.6 A "Fall Preventer Device" (FPD) can be used to minimize the risk of injury or death by providing a secondary alternate load path in the event of failure of the on-load hook or its release mechanism or of accidental release of the on-load hook. However, FPDs should not be regarded as a substitute for a safe on-load release mechanism.

2 Design and operation of FPDs

2.1 Locking pins

The following points should be considered when utilizing locking pins as FPDs:

.1 existing on-load release hooks fitted to ships should **not** be modified by drilling to provide a locking pin insertion point, unless approved by the Administration in accordance with paragraph 4, as this may significantly reduce the strength of the hook;

.2 locking pins should have clear operational instructions located near the insertion point of the locking pin and be colour coded so that it is clear where the pins are to be inserted;

.3 locking pins should be designed so that they cannot be inadvertently inserted in the wrong place;

.4 locking pins should be confirmed to be in place prior to turning out the lifeboat and during descent to the water;

.5 strict procedures, including a warning notice at the release handle, should be in place to ensure that the locking pin is removed before the release mechanism is activated. The handle of the locking pin should be coloured red or a suitable contrasting safety colour and prominently marked with a warning that it must be removed before activating the release mechanism;

.6 the removal of the pin should be achievable quickly and easily without posing any risk to the operating crew designated to carry out the task once the lifeboat has reached the water;

.7 if the removal of the pins requires opening of the lifeboat hatch it should be readily achievable by the operating crew at each device from within the craft;

.8 once the on-load release hooks have been connected to recover the lifeboat, the locking pins should be re-inserted before the boat is hoisted clear of the water. The locking pins should be designed so that they do not interfere with either the lifting or re-stowing of the lifeboat into the davits; and

.9 where provided, fall preventer locking pins should not be used for any other purpose and should be fitted to the lifeboat at all times.

2.2 Strops or slings

Wires or chains should not be used as FPDs, as they do not absorb shock loads. The following points should be considered when synthetic strops or slings are used as FPDs:

.1 where FPDs are synthetic strops or slings and no modifications are required to the lifeboat, the on-load release hook or launching equipment, a functional test should be carried out. The functional test should demonstrate, to the satisfaction of the Administration, that the equipment performs without interfering in the operation of the lifeboat or launching equipment. Strops or slings should be of resilient fibre in construction;

.2 the strops or slings should be issued with an appropriate certificate documenting a tensile strength which provides for a factor of safety of at least six, based on the total weight of the lifeboat when loaded with its full complement of persons and equipment. The strops or slings should be inspected before use and thoroughly inspected by ship's crew every six months. The material of the strop or sling should be rot-proof, corrosion-resistant, not be unduly affected by seawater, oil or fungal attack, and UV resistant. The strops or slings should be permanently marked with the date of entry into service;

.3 strict procedures, including a warning notice at the release handle, should be in place to ensure that the strops or slings are removed before the release mechanism is activated;

.4 the attachment point of the strop or sling to the on-load release hook and the davit falls block should be clearly marked and designed so that any connection device such as shackles cannot be connected to either the wrong part of the block or the wrong part of the on-load release hook;

.5 the release of the strops or slings should be achievable quickly and easily without posing any risk to the operating crew designated to carry out the task once the lifeboat has reached the water. If the release of the strops or slings requires opening of the lifeboat hatch it should be readily achievable by the operating crew at each device from within the craft. Once detached, the strops or slings should not interfere with the operation of the on-load release gear or the propeller;

.6 once the on-load release hooks have been connected to recover the lifeboat, the strops or slings should be reattached to the lifeboat before the boat is hoisted clear of the water. The strops or slings should be designed so that they do not interfere with either the lifting or re-stowing of the lifeboat into the davits;

.7 a strop or sling used as an FPD should be sized and arranged to allow the transfer of load from the hook mechanism to the strop with minimal movement (drop) of the boat in the event of a release mechanism failure. Should a fall preventer strop or sling be subject to an unintentional dynamic shock loading, then the strop or sling should be replaced and the associated attachment points inspected. In such cases, the Administration should be informed as soon as possible and the master should provide a full report of the circumstances of the incident; and

.8 where provided, fall preventer strops or slings should not be used for any other purpose and should be fitted to the lifeboat at all times.

3 Drills, testing, inspections and maintenance of lifeboats and launching appliances

3.1 The ship's master or the officer in charge of any lifeboat lowering or lifting operation should ensure that, where provided, lifeboat FPDs are properly in place before commencing any drill, testing, inspection or maintenance where persons are in the lifeboat.

3.2 The ship's operating crew should be familiar with the operation of the FPD fitted to the lifeboat on their ship. The procedure to be followed should be contained in the ISM Code documentation and the ship's training manual.

3.3 Those conducting training drills and drafting ISM Code procedures should take into account that with certain types of ship such as oil, gas or chemical tankers it may not be possible to use an FPD in an abandon ship situation where the release mechanism of the device is not inside the lifeboat. In such cases, the master should take this into account when considering application of paragraphs 2.1.9 or 2.2.8. Where a different procedure is followed during routine drills compared with an abandon ship situation, this should be clearly described in the ISM Code documentation and training manual.

4 Modification of existing approved on-load hooks already fitted to a ship to incorporate FPDs

The shipowner or original equipment manufacturer should contact the Administration for approval before any modification, such as modifying existing lifeboats and hooks for oil and chemical tankers so that FPDs can be released from within the lifeboat, is made to a hook, lifeboat or davit to accommodate the use of FPDs. Any retesting of any equipment should be agreed and witnessed by the Administration or a recognized organization appointed by them and documented in the relevant approval file.

***

ANNEX 8

DRAFT CIRCULAR MSC.1/CIRC.1206/REV.1

MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), recalled that at its seventy-fifth session (15 to 24 May 2002), it had considered the issue of the unacceptably high number of accidents with lifeboats in which crew were being injured, sometimes fatally, while participating in lifeboat drills and/or inspections, and noted that most accidents fell under the following categories:

.1 failure of on-load release mechanism;

.2 inadvertent operation of on-load release mechanism;

.3 inadequate maintenance of lifeboats, davits and launching equipment;

.4 communication failures;

.5 lack of familiarity with lifeboats, davits, equipment and associated controls;

.6 unsafe practices during lifeboat drills and inspections; and

.7 design faults other than on-load release mechanisms.

2 Pending further consideration of the problem, the Committee approved MSC/Circ.1049 on Accidents with lifeboats, to draw the attention of manufacturers, shipowners, crews and classification societies to the personal injury and loss of life that may follow inadequate attention to the design, construction, maintenance and operation of lifeboats, davits and associated equipment and urged all concerned to take necessary action to prevent further accidents with lifeboats. It invited Member Governments to:

.1 bring the circular to the attention of their maritime Administrations, relevant industry organizations, manufacturers, shipowners, crews and classification societies;

.2 take the necessary action to prevent further accidents with lifeboats pending the development of appropriate IMO guidance;

.3 ensure that:

.3.1 on-load release equipment used on ships flying their flag is in full compliance with the requirements of paragraphs 4.4.7.6.2.2 to 4.4.7.6.5 of the LSA Code;

.3.2 all appropriate documentation for the maintenance and adjustment of lifeboats, launching appliances and associated equipment is available on board;

.3.3 personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment are fully trained and familiar with these duties;

.3.4 maintenance of lifeboats, launching appliances and associated equipment is carried out in accordance with approved established procedures;

.3.5 lifeboat drills are conducted in accordance with SOLAS regulation III/19.3.3 for the purpose of ensuring that ship's personnel will be able to safely embark and launch the lifeboats in an emergency;

.3.6 the principles of safety and health at work apply to drills as well;

.3.7 personnel undertaking maintenance and repair activities are appropriately qualified;

.3.8 hanging-off pennants should only be used for maintenance purposes and not during training exercises;

.3.9 all tests required for the design and approval of life-saving appliances are conducted rigorously, according to the Guidelines developed by the Organization, in order to identify and rectify any design faults at an early stage;

.3.10 the equipment is easily accessible for inspections and maintenance and is proven durable in harsh operational conditions, in addition to withstanding prototype tests; and

.3.11 the approving authorities or bodies pay close attention to proper workmanship and state-of-the-art possibilities when assessing equipment for approval; and

.4 encourage shipowners, when undertaking maintenance and repair activities, to employ qualified personnel, preferably certified by the manufacturer.

3 Member Governments were further invited, while enforcing the provisions of SOLAS regulation IX/4.3, to ensure that the above issues are addressed through the Safety Management System of the company, as appropriate.

4 The Committee further recalled that, at its seventy-seventh session (28 May to 6 June 2003), recognizing the experience gained since the approval of the Guidelines on inspection and maintenance of lifeboat on-load release gear (MSC/Circ.614) at its sixty-second session (24 to 28 May 1993), and that the implementation of expanded and improved guidelines could contribute towards a reduction of the incidence of accidents with lifeboats, it had approved the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (MSC/Circ.1093), superseding MSC/Circ.614. Taking into account subsequent amendments to SOLAS chapter III and the LSA Code, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection, the Committee approved amendments to the Guidelines, as set out in annex 1. The Committee further noted that the guidance developed for lifeboats could also apply to the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

5 The Committee further recalled that, at its seventy-ninth session (1 to 10 December 2004), it had endorsed the intention of the Sub-Committee on Ship Design and Equipment, in cooperation with the Sub-Committee on Standards of Training and Watchkeeping, to develop further IMO guidance as envisioned in MSC/Circ.1049, and accordingly, approved the Guidance on safety during abandon ship drills using lifeboats (MSC/Circ.1136), as set out in annex 2. The Committee further recalled that the Guidance developed for lifeboats has relevance, in general, for emergency drills with other life-saving systems and should be taken into account when such drills are conducted. In connection with MSC/Circ.1136, and recognizing the need to provide a basic outline of essential steps to safely carry out simulated launching of free-fall lifeboats in accordance with SOLAS regulation III/19.3.3.4, and having considered proposals by the forty-seventh session of the Sub-Committee on Design and Equipment, the Committee further approved the Guidelines for simulated launching of free-fall lifeboats (MSC/Circ.1137), as set out in the appendix to annex 2.

6 Having considered the need to update several of the circulars discussed above, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection to consolidate the numerous circulars on the subject of measures to prevent accidents with lifeboats in order to better serve the mariner, the Committee approved Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (annex 1) and Guidelines on safety during abandon ship drills using lifeboats (annex 2) as annexed to MSC.1/Circ.1206.

7 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], approved amendments to annexes 1 and 2 to MSC.1/Circ.1206 concerning inspection and maintenance of lifeboats, launching appliances and on-load release gear, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session.

8 Member Governments are invited to give effect to the annexed Guidelines as soon as possible and to bring them to the attention of shipowners, ship operators, ship-vetting organizations, ship personnel, surveyors, manufacturers and all others concerned with the inspection and maintenance of lifeboats, liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

9 This circular supersedes MSC/Circ.1049, MSC/Circ.1093, MSC/Circ.1136, MSC/Circ.1137 and MSC.1/Circ.1206.

ANNEX 1

GUIDELINES FOR PERIODIC SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR

General

1 The objective of these Guidelines is to establish a uniform, safe and documented performance of periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear.

2 These Guidelines relate to the application of the ISM Code to periodic servicing and maintenance of lifeboat arrangements and should therefore be reflected in procedures developed for a ship under that Code.

3 The general principle in these Guidelines may also be applied for the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and release gear.

4 Detailed guidance regarding some procedures covered by these Guidelines is provided in the appendix.

SOLAS regulations

5 These Guidelines relate to the requirements contained in:

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

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

Responsibility

6 The company* is responsible for servicing and maintenance on board its ships in accordance with SOLAS regulation III/20 and for the establishment and implementation of health, safety and environment (HSE) procedures covering all activities during servicing and maintenance.

7 The personnel carrying out servicing and maintenance are responsible for the performance of the work as authorized in accordance with the system specified in paragraph 10.

8 The above personnel are also responsible for complying with HSE instructions and procedures.

9 Service providers carrying out the thorough examination, operational testing, repair and overhaul of lifeboats, launching appliances and on-load release gear should be authorized in accordance with MSC.1/Circ.1277.

---

* For the purpose of these Guidelines, company is as defined in SOLAS regulation IX/1.2.

Certification

10 Where these Guidelines call for certification of servicing personnel, such certification should be issued in accordance with an established system for training and authorization in accordance with MSC.1/Circ.1277.

Qualification levels

11 Weekly and monthly inspections, and routine maintenance as specified in the equipment maintenance manual(s), should be conducted under the direct supervision of a senior ship's officer in accordance with the maintenance manual(s).

12 All other inspections, servicing and repair should be conducted by the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

Reports and records

13 All reports and checklists should be correctly filled out and signed by the person who carries out the inspection and maintenance work and should also be signed by the company's representative or the ship's master.

14 Records of inspections, servicing, repairs and maintenance should be updated and filed on board the ship.

15 When repairs, thorough examinations and annual servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose should be promptly issued by the service provider who performed the work.

APPENDIX

SPECIFIC PROCEDURES FOR MAINTENANCE AND SERVICING

1 GENERAL

1.1 Any inspection, servicing and repair should be carried out according to the maintenance manuals and associated technical documentation developed by the manufacturer or an alternative body authorized in accordance with MSC.1/Circ.1277.

1.2 A full set of maintenance manuals and associated technical documentation as specified in 1.1 should be available on board for use in all operations involved in the inspection, maintenance, adjustment and re-setting of the lifeboat and associated equipment, such as davits and release gear.

1.3 The maintenance manuals and associated technical documentation as specified in 1.1 should include the following items as a minimum and should be periodically reviewed and updated as necessary.

2 ANNUAL THOROUGH EXAMINATION

2.1 As items listed in checklists for the weekly/monthly inspections also form the first part of the annual thorough examination, when carrying out this examination the inspection of these items should be performed by the ship's crew in the presence of the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

2.2 Inspection and maintenance records of inspections and routine maintenance carried out by the ship's crew and the applicable certificates for the launching appliances and equipment should be available.

2.3 Repairs and replacement of parts should be carried out in accordance with the manufacturer's requirements and standards.

Lifeboats

2.4 The following items should be examined and checked for satisfactory condition and operation:

.1 condition of lifeboat structure including fixed and loose equipment;

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system; and

.7 bailing system.

Release gear

2.5 The following should be examined for satisfactory condition and operation after the annual winch brake test with the empty boat, as required by paragraph 3.1:

.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 the lifeboat and the safety of personnel in the lifeboat. All inspection and maintenance operations on this equipment should therefore be carried out with the utmost care.

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

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.

4 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 dynamic winch brake test. Special consideration should be given to ensure that no damage has occurred during the winch brake test, especially the hook fastening.

2.6 Operational test of on-load release function:

.1 position the lifeboat partially into 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.

2.7 Operational test of off-load release function:

.1 position the lifeboat fully waterborne;

.2 operate the off-load release gear;

.3 reset the on-load release gear; and

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

Note:

Prior to hoisting, check that the release gear is completely and properly reset. The final turning-in of the lifeboat should be done without any persons on board.

2.8 Operational test of free-fall lifeboat release function:

.1 engage the simulated launching arrangements as specified in the manufacturer's operating instructions;

.2 the operator should be 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 procedures .2 to .4 above, using the back-up release mechanism, when applicable;

.6 remove the simulated launching arrangements; and

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

Davit

2.9 The following items should be examined for satisfactory condition and operation:

.1 davit structure, in particular with regard to corrosion, misalignments, deformations and excessive free play;

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

.3 lubrication of wires, sheaves and moving parts;

.4 functioning of limit switches;

.5 stored power systems; and

.6 hydraulic systems.

Winch

2.10 The following items should be examined for satisfactory condition and operation:

.1 open and inspect brake mechanism;

.2 replace brake pads, if necessary;

.3 remote control system;

.4 power supply system; and

.5 winch foundation.

3 DYNAMIC WINCH BRAKE TEST

3.1 Annual operational testing should preferably be done by lowering the empty boat. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

3.2 The five-year operational test should be done by lowering the boat loaded to 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, or equivalent load. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

3.3 Following these tests, the brake pads and stressed structural parts should be re-inspected.

Note:

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

4 OVERHAUL OF ON-LOAD RELEASE GEAR

Overhaul of on-load release gear includes:

.1 dismantling of hook release units;

.2 examination with regard to tolerances and design requirements;

.3 adjustment of release gear system after assembly;

.4 operational test as per above and with a load according to SOLAS regulation III/20.11.2.3; and

.5 examination of vital parts with regard to defects and cracks.

Note:

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

ANNEX 2

GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS

1 GENERAL

1.1 Introduction

1.1.1 It is essential that seafarers are familiar with the life-saving systems on board their ships and that they have confidence that the systems provided for their safety will work and will be effective in an emergency. Frequent periodic shipboard drills are necessary to achieve this.

1.1.2 Crew training is an important component of drills. As a supplement to initial shore-side training, onboard training will familiarize crew members with the ship systems and the associated procedures for use, operation and drills. On these occasions, the objective is to develop appropriate crew competencies, enabling effective and safe utilization of the equipment required by the 1974 SOLAS Convention. The time limits set out in SOLAS for ship abandonment should be considered as a secondary objective when conducting drills.

1.2 Drill frequency

Experience has shown that holding frequent drills furthers the goals of making the crew familiar with the life-saving systems on board their ships and increasing their confidence that the systems will work and will be effective in an emergency. Drills give the crew opportunity to gain experience in the use of the safety equipment and in cooperation. The ability to cope with an emergency and handle the situation, if the ship needs to be abandoned, needs to be well rehearsed. However, frequent crew changes sometimes make it difficult to assure that all on board have had the opportunity to participate in drills if only the minimum required drills are conducted. Therefore, consideration needs to be given to scheduling drills as necessary to ensure all on board have an early opportunity to become familiar with the systems on board.

1.3 Drills must be safe

1.3.1 Abandon ship drills should be planned, organized and performed so that the recognized risks are minimized and in accordance with relevant shipboard requirements of occupational safety and health.

1.3.2 Drills provide an opportunity to verify that the life-saving system is working and that all associated equipment is in place and in good working order, ready for use.

1.3.3 Before conducting drills, it should be checked that the lifeboat and its safety equipment have been maintained in accordance with the manufacturer's instructions, as well as noting all the precautionary measures necessary. Abnormal conditions of wear and tear or corrosion should be reported to the responsible officer immediately.

1.4 Emphasis on learning

Drills should be conducted with an emphasis on learning and be viewed as a learning experience, not just as a task to meet a regulatory requirement to conduct drills. Whether they are emergency drills required by SOLAS or additional special drills conducted to enhance the competence of the

crew members, they should be carried out at safe speed. During drills, care should be taken to ensure that everybody familiarizes themselves with their duties and with the equipment. If necessary, pauses should be made during the drills to explain especially difficult elements. The experience of the crew is an important factor in determining how fast a drill or certain drill elements should be carried out.

1.5 Planning and organizing drills

1.5.1 The 1974 SOLAS Convention requires that drills shall, as far as practicable, be conducted as if there was an actual emergency.* This means that the entire drill should, as far as possible, be carried out. The point is that, at the same time, it should be ensured that the drill can be carried out in such a way that it is safe in every respect. Consequently, elements of the drill that may involve unnecessary risks need special attention or may be excluded from the drill.

1.5.2 In preparing for a drill, those responsible should review the manufacturer's instruction manual to assure that a planned drill is conducted properly. Those responsible for the drill should assure that the crew is familiar with the guidance provided in the life-saving system instruction manual.

1.5.3 Lessons learned in the course of a drill should be documented and made a part of follow-up shipboard training discussions and planning the next drill session.

1.5.4 The lowering of a boat with its full complement of persons is an example of an element of a drill that may, depending on the circumstances, involve an unnecessary risk. Such drills should only be carried out if special precautions are observed.

2 ABANDON SHIP DRILLS

2.1 Introduction

It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. The 1974 SOLAS Convention requires that sufficiently detailed manufacturers' training manuals and instructions be carried on board, which should be easily understood by the crew. Such manufacturers' manuals and instructions should be accessible for everyone on board and observed and followed closely during drills.

2.2 Guidance to the shipowner

2.2.1 The shipowner should ensure that new safety equipment on board the company's ships has been approved and installed in accordance with the provisions of the 1974 SOLAS Convention and the International Life-Saving Appliances (LSA) Code.

2.2.2 Procedures for holding safe drills should be included in the Safety Management System (SMS) of the shipping companies. Detailed procedures for elements of drills that involve a special risk should be evident from workplace assessments adjusted to the relevant life-saving appliance.

* Refer to SOLAS regulation III/19.3.1.

2.2.3 Personnel carrying out maintenance and repair work on lifeboats should be qualified accordingly.*

2.3 Lifeboats lowered by means of falls

2.3.1 During drills, those responsible should be alert for potentially dangerous conditions and situations and should bring them to the attention of the responsible person for appropriate action. Feedback and improvement recommendations to the shipowner, the Administration and the system manufacturer are important elements of the marine safety system.

2.3.2 When performing drills with persons on board a lifeboat, it is recommended that the boat first be lowered and recovered without persons on board to ascertain that the arrangement functions correctly. In this case, the boat should then be lowered into the water with only the number of persons on board necessary to operate the boat.

2.3.3 To prevent lashings or gripes from getting entangled, proper release should be checked before swinging out the davit.

2.4 Free-fall lifeboats

2.4.1 The monthly drills with free-fall lifeboats should be carried out according to the manufacturer's instructions, so that the persons who are to enter the boat in an emergency are trained to embark the boat, to take their seats in a correct way and to use the safety belts; and also are instructed on how to act during launching into the sea.

2.4.2 When the lifeboat is free-fall launched as part of a drill, this should be carried out with the minimum personnel required to manoeuvre the boat in the water and to recover it. The recovery operation should be carried out with special attention, bearing in mind the high risk level of this operation. Where permitted by SOLAS, simulated launching should be carried out in accordance with the manufacturer's instructions, taking due note of the Guidelines for simulated launching of free-fall lifeboats at appendix.

* Refer to the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (see annex 1).

APPENDIX

GUIDELINES FOR SIMULATED LAUNCHING OF FREE-FALL LIFEBOATS

1 Definition

Simulated launching is a means of training the crew in the free-fall release procedure of free-fall lifeboats and in verifying the satisfactory function of the free-fall release system without allowing the lifeboat to fall into the sea.

2 Purpose and scope

The purpose of these Guidelines is to provide a basic outline of essential steps to safely carry out simulated launching. These Guidelines are general; the lifeboat manufacturer's instruction manual should always be consulted before conducting simulated launching. Simulated launching should only be carried out with lifeboats and launching appliances designed to accommodate it, and for which the manufacturer has provided instructions. Simulated launching should be carried out under the supervision of a responsible person who should be an officer experienced in such procedures.

3 Typical simulated launching sequence

3.1 Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.

3.2 Ensure that the restraining device(s) provided by the manufacturer for simulated launching are installed and secure and that the free-fall release mechanism is fully and correctly engaged.

3.3 Establish and maintain good communication between the assigned operating crew and the responsible person.

3.4 Disengage lashings, gripes, etc., installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.

3.5 Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.

3.6 All crew, except the assigned operating crew, disembark the lifeboat. The assigned operating crew fully prepares the lifeboat for free-fall launch and secures themselves in their seats for the release operation.

3.7 The assigned operating crew activates the release mechanism when instructed by the responsible person. Ensure that the release mechanism operates satisfactorily and, if applicable, the lifeboat travels down the ramp to the distance specified in the manufacturer's instructions.

3.8 Resecure the lifeboat to its stowed position, using the means provided by the manufacturer and ensure that the free-fall release mechanism is fully and correctly engaged.

3.9 Repeat procedures from 3.7 above, using the back-up release mechanism when applicable.

3.10 The assigned operating crew disembarks the lifeboat.

3.11 Ensure that the lifeboat is returned to its normal stowed condition. Remove any restraining and/or recovery devices used only for the simulated launch procedure.

***

ANNEX 9

DRAFT AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70))

PART 1
PROTOTYPE TESTS FOR LIFE-SAVING APPLIANCES

1 In paragraph 5.2.1, the figure "75 kg" is replaced by the figure "82.5 kg".

2 In paragraph 5.7, the figure "75 kg" is replaced by the figure "82.5 kg".

3 In paragraph 5.16.4, the figure "75 kg" is replaced by the figure "82.5 kg".

4 In paragraph 5.17.1, the figure "75 kg" is replaced by the figure "82.5 kg".

5 In paragraph 5.17.2.3, the figure "75 kg" is replaced by the figure "82.5 kg".

6 In paragraph 5.17.10.4, the figure "75 kg" is replaced by the figure "82.5 kg".

7 In paragraph 5.17.12, the figure "75 kg" is replaced by the figure "82.5 kg".

PART 2
PRODUCTION AND INSTALLATION TESTS

8 In paragraph 5.2, the existing subparagraph .4 is replaced by the following:

".4 the 10% overload to be 10% of the mass of the liferaft or rescue boat assembly together with its full equipment and complement of persons calculated at 82.5 kg per person;"

9 In paragraph 6.2.5, the figure "75 kg" is replaced by the figure "82.5 kg".

***

ANNEX 10

DRAFT MSC CIRCULAR

GUIDELINES FOR THE APPROVAL OF INFLATABLE LIFERAFTS SUBJECT TO EXTENDED SERVICE INTERVALS NOT EXCEEDING 30 MONTHS

1 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], approved the Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months, as set out in the annex, following the recommendations made by the Sub-Committee on Ship Design and Equipment at its fifty-second session.

2 Member Governments are invited to use the annexed Guidelines when permitting extended service intervals of inflatable liferafts under the provisions of SOLAS regulation III/20.8.3.

ANNEX

GUIDELINES FOR THE APPROVAL OF INFLATABLE LIFERAFTS SUBJECT TO EXTENDED SERVICE INTERVALS NOT EXCEEDING 30 MONTHS

1 PREAMBLE

1.1 SOLAS regulation III/20.8.3 permits Administrations that approve new and novel inflatable liferaft arrangements to allow for extended service intervals. Such extended service intervals may be permitted if the new and novel liferaft arrangements have proved to maintain the same standard as required by testing procedure during extended service intervals.

1.2 While the justification for the existing service interval of 12 months has been verified through many years of experience and continuous observation of the product standard, it has been found that the instruments for allowing extended service intervals under the provisions of SOLAS regulation III/4 are not sufficiently detailed to ensure an equivalent and uniform level of safety is maintained during extended service intervals.

1.3 These Guidelines have been developed to address the above-mentioned concerns, with a view to possible mandatory application in the future after experience is gained in their application.

2 INTRODUCTION

2.1 These Guidelines are intended to provide guidance for Administrations when permitting extended service intervals for inflatable liferafts under the provisions of SOLAS regulation III/20.8.3. The approval of such liferafts by Administrations should be based on satisfactory testing, as specified in these Guidelines, and consideration of any history of component failure.

3 DEFINITIONS

For the purpose of these Guidelines the following definitions apply.

3.1 *Extended service interval* is a service interval in excess of 12 months.

3.2 *Service life* means the same as *life time* and is the time passed since a liferaft was manufactured.

3.3 *Onboard inspection* means an inspection carried out on board a vessel to verify the conditions of liferafts without adversely affecting the protective arrangements.

3.4 *Inspection personnel* is personnel certified to carry out onboard inspections.

3.5 *Service* (of inflatable liferafts) means the execution of a control and maintenance process at an approved servicing station in accordance with resolution A.761(18).

3.6 *Environmental influences* mean conditions in the maritime environment which may have a direct or indirect effect on the operational deployment and reliability of liferafts.

3.7 *Protective arrangements* mean features in conjunction with liferafts approved for extended service intervals which can protect the liferafts from harmful environmental influences.

4 GENERAL

4.1 Liferafts approved and certified for extended service intervals pursuant to SOLAS regulation III/20.8.3 should be:

.1 serviced at an approved servicing station* at intervals not exceeding 30 months for the first 10 years of their service lives, and thereafter at the frequency required by SOLAS regulation III/20.8.1.1. This 10-year limitation may be extended if real time verification justifies acceptance by the Administration;

.2 inspected on board by inspection personnel in accordance with the provisions of these Guidelines and the instructions of the manufacturer at intervals not exceeding 12 months from the last service or onboard inspection and for the first 10 years of their service life;

.3 tested according to the recommendations of these Guidelines or test procedures which are substantially equivalent; and

.4 marked to indicate that they have been approved and certified for extended service intervals in accordance with these Guidelines.

4.2 When liferafts approved for extended service intervals are installed on a ship, measures should be taken to safeguard inspection personnel during the onboard inspection mentioned in 4.1.2. Should rafts require repositioning during onboard inspections to provide access, suitable means should be provided to do so safely.

4.3 In addition to complying with all relevant requirements of paragraphs 4.1 and 4.2 of the LSA Code, inflatable liferaft arrangements intended for extended service intervals should:

.1 be capable of withstanding all environmental influences for extended service intervals on board seagoing vessels;

.2 include protective arrangements that give the liferaft, its fittings and equipment adequate protection to withstand the environmental influences imposed by the extended interval;

.3 if the approved service interval exceeds the life time of dated items in the liferaft, include provisions for the replacement of expired items in conjunction with the annual onboard inspections required by SOLAS regulation III/20.8.3.2 without relocating the liferaft in its container or compromising the protective arrangements provided in accordance with 4.3.2;

---

* Refer to the Recommendation on conditions for the approval of servicing stations for inflatable liferafts adopted by the Organization by resolution A.761(18).

.4 be arranged so that all items to be inspected during the onboard inspection are accessible without re-locating the liferaft in its container and without compromising the protective arrangements;

.5 be arranged so that all replaceable dated items are readily accessible from the interior of the liferaft when the liferaft is deployed and inflated; and

.6 include means to evaluate the humidity level behind the protective barrier and to detect any leakage of inflation gas during the annual onboard inspection. The efficiency and accuracy of these means should be verified.

5 TESTING

General

5.1 The liferafts should be subjected to all the relevant tests described in section 5 of resolution A.689(17), as amended by resolution MSC.81(70), and to the following tests in the sequence of appearance. In addition the manufacturer should carry out a full 30 months' demonstration, by field trials, to verify adequacy and involving representative types of liferafts, onboard installations, stowage height and conditions of different operational areas. Approvals by Administrations should specify criteria restricting application of the approval to installation situations no more onerous than the field trial. Approvals by Administrations should also specify that they are based on compliance with these Guidelines.

5.2 Depending on the capacity and type of liferaft(s) submitted for approval, the Administration should from the relevant range of liferafts require:

.1 two liferafts from a range of 6-8 person capacity;

.2 two liferafts from a range of 9-20 person capacity;

.3 two liferafts from a range of 21-39 person capacity;

.4 two liferafts from a range of 40-51 person capacity;

.5 two liferafts from a range of 52-109 person capacity;

.6 two liferafts from a range of 110-150 person capacity;

.7 two liferafts from a range greater than 151 person capacity;

.8 two davit-launched liferafts from a range of 6-24 person capacity;

.9 two davit-launched liferafts from a range of 25-39 person capacity; and

.10 two davit-launched liferafts from a range greater than 39-person capacity,

to be subjected to the tests in 5.4.1 to .10 in accordance with the test raft distribution table described in 5.3.

5.3 A test sequence should always include four liferafts (or multiples of four liferafts) collected from the relevant test ranges in 5.2 and the test distribution should be in accordance with table 1[1].

Table 1 – Test raft distribution

No.	Test	Test rafts			
		1	2	3	4
5.4.2	Vibration/shock test	X	X	X	X
5.4.3	Dated item replacement test	X	X	X	X
5.4.4	Damp heat cyclic test	X	X	X	X
5.4.5	Access to lifting hook test (D/L rafts only)	X	X	X	X
5.4.6	Drop test	X	X		
5.4.7	Cold inflation test			X	X
5.4.8	Pressure test	X	X	X	X
5.4.9	Floor seam test	X	X	X	X
5.4.10	Detailed inspection	X	X	X	X

5.4 Additional tests applicable only to liferafts with extended service intervals

5.4.1 Recording of humidity

The humidity behind the protective barrier of the four liferafts in the test sequence and in the operationally packed conditions should be measured and recorded using the procedure described in 5.4.4.3. The humidity should not exceed a relative humidity corresponding to 65% rH at 20ºC. If drying agent is used to bring the humidity down to the acceptable level, its effect should be removed for the remainder of the test. No underpressure should be induced behind the protective barrier before or during the prototype test sequence.

5.4.2 Vibration/shock test

The liferafts in the operationally packed conditions should be subjected to a vibration and shock test.

.1 Testing machinery
The impacts specified under test procedures should be capable of being obtained for the liferafts at the base of the mounting.

.2 Mounting of the liferaft
Mounting on the test machine should simulate the mounting on board a ship. Thus, the liferaft is fastened to the vibration table by its cradle and in its normal position, oriented normally with respect to gravity in all three axes. Figure 1

[1] Examples:
If approval is applied for liferafts in the range of 6-8 persons and in the range of 21-39 persons, two liferafts from the range 5.2.1 and two liferafts from the range 5.2.3 should be selected for a test sequence.
If approval is applied for a 10-person liferaft only, four liferafts should be selected from range 5.2.2, which could be four 10-person liferafts.
If approval is applied for liferafts from three ranges, the collection of liferafts for the test sequences should be two liferafts from the first two ranges and four liferafts from the third range.

shows types of representative mounting arrangements, where type B may be used to cover most types of container configurations, while type A is generally applicable for liferafts with a capacity of up to 16 persons.

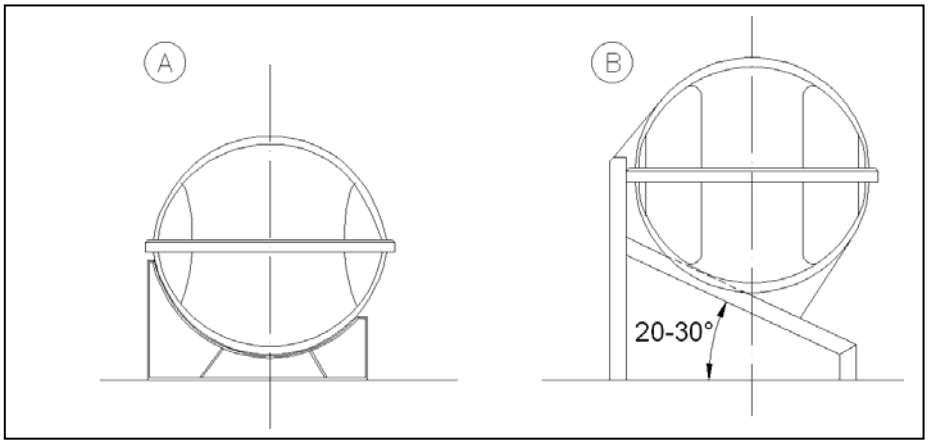

Figure 1 – Mounting arrangements

.3 Test procedures

The test is defined as a random endurance vibration test.

Reference: IEC 60068-2-64, Test Fh: Vibration, broadband random (digital control).

Frequency range:	2-100 Hz	
Acceleration spectral:	2-13 Hz	12 dB/octave
Density:	13-100 Hz	0.011 g2/Hz
Total RMS level:	1.0 g	
Duration:	180 minutes per axis	
Number of axes:	3, mutually perpendicular	

5.4.3 Replacement of items with expiry date

If the service interval approval applied for exceeds the lifetime of dated items in the liferaft, it should be demonstrated that expired items can be replaced without compromising the protective barrier. This test should be carried out after the vibration test, and compliance should be proven through the damp heat cyclic test.

5.4.4 Damp heat cyclic test

Following the vibration test, the liferafts, still in the operationally packed condition, should be exposed to a damp heat cyclic test in accordance with IEC 60068-2-30.

.1 The test should consist of four cycles of 24 hours' duration and the lower and upper temperature used should be 25ºC and 65ºC, respectively.

.2 The variant for the temperature-fall period should be variant 1 shown in figure 2a of IEC 60068-2-30.

.3 After the completion of the test, the liferaft should be removed from the test chamber and allowed to rest for 24 hours. The humidity level behind the protective barrier should then be measured, using a procedure which will prevent air from the surroundings from affecting the test results. The relative humidity at a temperature corresponding to 20ºC should not exceed 65% rH.

5.4.5 Access to lifting hook (applicable to davit-launched liferafts only)

It should be established by a test that there is easy access to the lifting hook or bridle on davit-launched liferafts after the vibration test has been carried out.

5.4.6 Drop test

Following the test in 5.4.4 (and 5.4.5 as applicable), two liferafts should subsequently be subjected to the drop test described in paragraph 1/5.1 of resolution MSC.81(70).

5.4.7 Cold inflation test

Following the damp heat cyclic test, two liferafts should be subjected to a cold inflation test in accordance with paragraph 1/5.17.5 of resolution MSC.81(70).

5.4.8 Pressure test

The liferafts should be subjected to the test described in paragraphs 1/5.17.7 and 1/5.17.8 of resolution MSC.81(70). The liferafts should be subjected to the test described in paragraphs 2/5.1.5 and 2/5.1.6 of resolution MSC 81(70) in order to reveal any leaks caused by previous tests.

5.4.9 Floor seam test

The liferafts should be subjected to the floor seam test described in paragraph 5.9 of resolution A.761(18), as amended by resolution MSC.55(66).

5.4.10 Detailed inspection

Liferafts which have been subjected to the above specified tests and have been found to comply with the acceptance criteria should then be subjected to a thorough visual inspection in order to reveal any damage, wearing or chafing which may have been imposed by the previous tests.

6 SERVICING AND INSPECTION PROCEDURES

6.1 Servicing procedures

6.1.1 In addition to complying with all the relevant requirements in resolution A.761(18), servicing of inflatable liferafts approved for extended service intervals should comply with the provisions of this section of the Guidelines.

6.1.2 Servicing of inflatable liferafts approved for extended service intervals should only take place at approved servicing stations.

6.1.3 The liferaft should be packed according to the manufacturer's instructions, taking into consideration the specific requirements with regard to the particular protective arrangements, the management of dated items in the liferaft and the need to be able to confirm the condition of the liferaft during periodic onboard inspections.

6.1.4 Provisions should be available at the servicing station to ensure that the relative humidity behind the protective barrier of the liferaft approved for extended service intervals will not exceed a relative humidity of 65% rH at 20ºC when the liferaft has been serviced and repacked.

6.1.5 Items of equipment should be checked to ensure that all are in good condition and dated items should be replaced in cases where the expiry date falls before the next service date of the liferaft if they cannot be replaced in due course in conjunction with an intermediate periodic onboard inspection.

6.1.6 Davit-launched liferafts approved for extended service intervals should be subjected to a 10% overload suspension test at intervals not exceeding 30 months.

6.1.7 Liferafts approved for extended service intervals should be serviced at the intervals specified in 4.1.1. Tests as described in appendix 2 to resolution A.761(18) should be applied thereafter.

6.1.8 Procedures as described in the appendix should be established to ensure that each gas cylinder is properly filled and gastight before fitting to a liferaft.

6.2 Periodic onboard inspection

6.2.1 Onboard inspections of liferafts should only be undertaken by qualified persons who have been adequately trained and certificated by the liferaft manufacturer.

6.2.2 Onboard inspections of liferafts approved for extended service intervals should include inspection and control of the humidity around the liferaft and behind the protective barrier and control of the gas cylinder. The certified service personnel should have the required equipment and necessary tools to conclude the inspection.

6.2.3 Sufficient and accurate tools and measuring equipment should be provided for the execution of the annual onboard inspection as required by SOLAS regulation III/20.8.3.2 and should include the following elements:

.1 means capable of evaluating the humidity around the liferaft and behind its protective barrier;

.2 means capable of detecting possible leakages of inflation gas from the gas cylinder; and

.3 if relevant, provisions for the replacement of expired items in the liferaft's equipment in conjunction with the onboard inspection.

6.2.4 If the periodic onboard inspection reveals a loss of inflation gas, the liferaft should undergo a full service immediately. If excess humidity is present, the liferaft should be serviced and repacked within three months of the date of the onboard inspection.

APPENDIX

CONTROL OF GAS CYLINDERS

(see paragraph 6.1.8)

1 All gas cylinders should be weighed and checked against the gross mass which has been marked on the bottle. To allow for difference of scales when check-weighing, a tolerance of 14 g should be permitted. No gas cylinder should be fitted unless it has passed one of the following two tests:

.1 A storage period of at least 30 days after filling. Weighing should take place before and after storage using the same scales. There should be no loss of weight.

.2 The leak test specified in paragraph 2.

2 This paragraph describes a leak test for CO_2 cylinders which is regarded as equivalent to weighing the filled cylinder before and after at least 30 days of storage.

.1 Materials required

.1 Polythene bags of a suitable size to fit over the head of the cylinder, e.g.,:

.1 for a 125 mm diameter cylinder the bag size is approximately 230 mm open width x 300 mm length;

.2 for a 100 mm diameter cylinder the bag size is approximately 165 mm open width x 300 mm length; and

.3 for a 90 mm diameter cylinder the bag size is approximately 150 mm open width x 300 mm length.

.2 Elastic bands of a suitable size.

.3 A measuring glass, capacity 25 ml.

.2 Test solution

.1 The test liquid should be the standard test solution used to indicate small amounts of CO_2 gases (0.004N sodium carbonate in a 2% weight/volume solution of phenolphthalein).

.2 The solution should be stored in a cool place in dark coloured glass bottles with a tight-fitting screw cap. The shelf life should not exceed 12 months.

.3 Method of testing

.1 Lay the cylinder to be tested on its side in a rack, such that the valve end is protruding. Make sure the valve and shoulder of the cylinder are free from dust and other contaminants by carefully wiping it with a clean, dry cloth. Remove the dust cap to clean the valve, then replace the cap loosely.

.2 Using the measuring glass, transfer 25 ml of the test solution into a polythene bag.

.3 Pass the open end of the bag over the valve head and attach it to the cylinder body using one or more elastic bands. Make sure there are no air gaps in the seal.

.4 The polythene bag should hang 20 cm off the valve end of the cylinder with the test solution in one corner.

.5 Maintain the test for a period of not less than one hour.

.6 After the period of time stated in 2.3.5, shake the solution gently and make the observations detailed in 2.4.

.7 A control sample is necessary to detect any contamination. The sample is made by pouring 25 ml of test solution into a bag which is not fitted to a cylinder, but is sealed at the open end with adhesive tape to exclude atmospheric contamination. This bag should be placed on the rack in the vicinity of the cylinders being tested.

.4 Observations

.1 A leak of carbon dioxide from the cylinder will cause the pink colour of the test solution to fade. The test solution will become clear as water.

.2 If no colour change is observed, there is no leak of gas from the cylinder.

.3 The control sample should not change colour during the test. If a colour change takes place, this indicates that the atmosphere in the test area is contaminated with carbon dioxide and tests carried out together with this control sample are invalid. Tests should be repeated after corrective action has been taken on the atmosphere.

***

ANNEX 11

DRAFT ASSEMBLY RESOLUTION

ADOPTION OF THE GUIDELINES FOR SHIPS OPERATING IN POLAR WATERS

(The text of this annex is reproduced in document DE 52/21/Add.1)

***

ANNEX 12

JUSTIFICATION FOR NEW WORK PROGRAMME ITEM ON "DEVELOPMENT OF A CODE FOR SHIPS OPERATING IN POLAR WATERS"

1 Scope of the proposal

To conduct a review of the relevant IMO instruments with a view to preparing a comprehensive Code for ships operating in polar waters to enhance the existing voluntary measures related to maritime safety and environmental protection in polar waters. It is intended that the proposed Code would cover the full range of design, construction, equipment, operational, training, search and rescue and environmental protection issues relevant to ships operating in such waters. This work is a necessary and appropriate follow-on from the expected adoption of the draft Guidelines for ships operating in polar waters.

2 Compelling need

Recognizing the limited scope of the draft Guidelines for ships operating in polar waters to be adopted and the limited mandate for their development, a new work programme item is necessary to enable the DE Sub-Committee and other sub-committees to develop a more comprehensive set of provisions to address the increased interests and traffic in the polar regions, and the unique operational, environmental and search and rescue concerns peculiar to these areas. Although there has been no single recent incident in polar waters causing loss of life or significant pollution, there have been a series of incidents indicating a high level of risk, which may increase given the expected rise in ship traffic and numbers of persons voyaging on board ships to the polar regions for commercial reasons. The consequences of any major maritime safety or marine pollution incident in polar waters is likely to include widespread harm to these pristine environments and damage to the reputation of the shipping community.

3 Analysis of the issues involved, having regard to the costs to the maritime industry and global legislative and administrative burdens

The purpose of this work will be primarily to provide a consistent set of measures for ships intending to operate in polar waters, which are currently only contained in non-mandatory guidelines. It is anticipated that the design and construction requirements of the proposed Code would generally apply to new ships, so there should only be a limited cost and administrative and legal burden in this regard. Operation restrictions and additional and/or enhanced equipment measures may be developed and applied to existing ships if deemed necessary during the review. It should be noted that the aforementioned draft Guidelines adopt a goal oriented/performance-based approach to the scope and application of all measures and it is anticipated that a Code would take a similar approach. This approach will limit burdens on Administrations and the industry.

4 Benefits

Extension of the new IMO guidance for ships operating in polar waters aims to adopt a more comprehensive approach for addressing issues concerning operations in polar regions. This effort will also provide a consistent framework for dealing with maritime safety and environmental protection issues in these waters.

5 Priority and target completion date

This matter should have a high priority in view of the considerable concern of Administrations, international organizations and the shipping industry with the expected increase in ship traffic and numbers of persons voyaging on board ships to the polar regions.

It is expected that three sessions will be needed to properly deal with this matter in the DE-Sub-Committee.

6 Specific indication of action required

The Guidelines for ships operating in polar waters, which are anticipated to be adopted by A 26, may be recast and used as the basis for the proposed Code and its provisions would need to be updated and expanded to cover the full range of maritime safety and environmental protection issues for ships operating in these sensitive, remote and potentially hazardous environments.

7 Remarks on the criteria for general acceptance

.1 The subject of the proposal is within the scope of IMO's objectives.

.2 The item is within the relevant provisions of the Strategic Plan for the Organization and the High-level Action Plan.

.3 Industry standards do exist, but they do not cover the full range of important maritime safety and environmental protection issues.

.4 It is believed that the benefits do justify the proposed action.

8 Identification of which subsidiary bodies are essential to complete the work

This work should be able to be accomplished by the DE Sub-Committee in cooperation with the COMSAR, NAV, STW, SLF and other sub-committees, as necessary and if requested by the DE Sub-Committee. The DE Sub-Committee may need to also consult with the MEPC on environmental issues.

***

ANNEX 13

DRAFT MSC CIRCULAR

GUIDELINES FOR UNIFORM OPERATING LIMITATIONS OF HIGH-SPEED CRAFT

1 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], recognizing that unrestricted operation is not suitable for high-speed craft and that, therefore, operating limitations are necessary, approved the Guidelines for uniform operating limitations of high-speed craft, prepared by the Sub-Committee on Ship Design and Equipment at its fifty-second session, as set out in the annex.

2 Member Governments are invited to utilize the annexed Guidelines when applying the Permit to Operate High-Speed Craft provisions of the 2000 HSC Code and to bring them to the attention of all parties concerned.

ANNEX

GUIDELINES FOR UNIFORM OPERATING LIMITATIONS OF HIGH-SPEED CRAFT

1 INTRODUCTION

1.1 An explicit element of the Code of Safety for High-Speed Craft, 2000 (2000 HSC Code – "the Code") is that unrestricted operation is not suitable for high-speed craft and that operating limitations are necessary. In this regard, attention is drawn to paragraphs 1.2, 1.3.4 and 1.4.61 of the Code.

1.2 These Guidelines for uniform operating limitations of high-speed craft have been prepared to assist in the uniform implementation of the Code as amended in 2007, in particular paragraph 1.9.7 and Annex 12, and to provide information on the rationale underpinning such operating limitations.

1.3 It should be noted that the factors listed in Annex 12 of the Code are prefaced by the words "as a minimum" and may, where appropriate, be supplemented by other factors where the flag and/or port State Administrations are of the view that those additional factors are applicable to the satisfactory operations of the craft under the Permit to Operate.

1.4 Matters determining the operating limitations set out in the craft's Permit to Operate, as outlined in these Guidelines, may relate to one or more of the following three sectors:

.1 those affecting the safety of the craft as a whole;

.2 those specifically affecting the safety of the passengers and crew as individuals; and

.3 those affecting the safety of persons outside the craft.

1.5 The operating limitations established under these Guidelines should relate to the craft's normal operations. For example, if an automatic ride control system is normally used in conditions approaching the *worst operating conditions,* then that system should be assumed operational for the establishment of the operating limitations but should also be included in the FMEA analysis specified in the Code.

1.6 Any operating limitations resulting from consideration of all the relevant factors outlined in the following sections of these Guidelines should define the permitted operational envelope for the craft. Those limitations should be described in clear but succinct terms on the Permit to Operate and the Craft Operating Manual and clearly communicated to the craft's operating personnel.

2 MAXIMUM DISTANCE FROM REFUGE

2.1 Paragraph 1.3.4 gives time limits for passenger craft (4 hours) and cargo craft (8 hours) for the passage to a *place of refuge* (defined in paragraph 1.4.48 of Code) when proceeding at 90% of *maximum speed* (as defined in paragraph 1.4.38 of Code). This is to allow the craft to operate solely in areas where the necessary shore-based support is available and to safely retire to shelter in the event of changes in the weather and sea state.

2.2 This limitation is generally set by the referenced provisions of the Code, but should be clearly stated in the craft's documentation and shown on the Permit to Operate unless covered indirectly (e.g., by coordinates of boundaries of the operational area).

2.3 The maximum distance from base port or place of refuge should be established in accordance with paragraph 18.1.4 of the Code taking account of the relevant limits specified in paragraph 1.3.4 of the Code.

3 AVAILABLE RESCUE AND OPERATIONAL SUPPORT RESOURCES

3.1 In some cases the operating limitations are functions of the resources available on the route, rather than the craft's limitations. Specifically, the Code is predicated on adequate communications facilities, weather forecasts and maintenance facilities being available within the area of craft operation. Taken in conjunction with the requirement for proximity to place of refuge, the weather forecast requirement is intended to facilitate timely decision-making with regard to seeking refuge.

3.2 In setting the operating limitations, Administrations should consider whether the wave height corresponding to the w*orst intended conditions* should be such as to permit the craft to complete its passage without relying on a drastic reduction in speed, thus increasing the exposure of the passengers and crew to progressively more severe conditions. Such consideration relates to the craft being considered its own best survival craft in deteriorating conditions.

3.3 Paragraph 1.2.7 of the Code states: "*in the intended area of operation, suitable rescue facilities will be readily available*". Further, paragraph 1.4.12.1 states that a category A high-speed craft is one "*operating on a route where it has been demonstrated to the satisfaction of the flag and port States that there is a high probability that in the event of an evacuation at any point of the route all passengers and crew can be rescued safely within the least of:*

- *the time to prevent persons in survival craft from exposure causing hypothermia in the worst intended conditions,*

- *the time appropriate with respect to environmental conditions and geographical features of the route, or*

- *4 hours*".

3.4 The words "a high probability" in this text should be taken to mean that the probability of an evacuation **not** being successful is "remote" as defined in Annex 3 of the Code.

3.5 Although the Code gives no guidance on what constitutes "suitable rescue facilities", the Permit to Operate should only be issued where the flag and relevant coastal State Administrations are satisfied that appropriate measures have been implemented and an appropriate assessment made that demonstrates to their satisfaction that the Code's requirements are met across the operational area in accordance with paragraph 18.2.2.4 of the Code. For this purpose Administrations may require the application for the Permit to Operate to be accompanied by an analysis of shipping traffic and other resources likely to be available in the operating area in the event that the craft evacuates and rescue is required. Assessment of suitable rescue facilities through trial evacuation or rescue exercise may be highly beneficial in identifying gaps and weaknesses and in improving overall performance in preparation for an actual rescue, but should not normally be required.

3.6 Appropriate consideration should be given to the seasonal availability of resources. For example, presence of ice due to seasonal variation may render a specified place of refuge unusable due to navigational safety considerations.

4 WIND FORCE, MINIMUM AIR TEMPERATURE, VISIBILITY AND DEPTH OF WATER

4.1 Paragraph 1.4.61 of the Code, in defining the *worst intended conditions*, makes specific reference to the following parameters, which should therefore appear on the Permit to Operate, when appropriate:

.1 significant wave height (refer to section 5 of these Guidelines);

.2 wind force (refer to chapter 2, paragraph 1.1.4 of Annex 6, paragraphs 1.3 and 2.2 of Annex 7 and paragraphs 1.1 and 2.1.4.3 of Annex 8 of the Code. For example, in worst intended conditions the maximum wind pressure should not exceed that used in the craft's stability calculations, nor should it create aerodynamic lift beyond that associated with the craft's normal operating attitude);

.3 minimum air temperature (reference for example brittle fracture properties of materials, susceptibility to icing and resulting effect on stability, etc.);

.4 visibility (e.g., conditions of impaired vision and night navigation may necessitate improved navigation equipment or night vision equipment); and

.5 minimum safe water depth (e.g., safe navigation, bottom scouring, adverse effects on seabed flora and fauna, wash waves (see paragraph 7.2 below)).

4.2 The matters outlined in the preceding paragraph are intended to only comprise an illustrative and non-exhaustive list. They may be supplemented by Administrations to include, for example, the effect of sea ice on the craft's structure, propellers, rudders and sea intakes and its ability to navigate safely and reach a place of refuge.

5 SEA STATE LIMITATIONS – SIGNIFICANT WAVE HEIGHT

5.1 General

5.1.1 The *worst intended* sea *conditions* are usually set in terms of a *significant wave height* value as defined in paragraph 1.4.54 of the Code. These Guidelines have been prepared on the assumption that this parameter is used but the underlying principles are still applicable if another parameter is used. In applying the Guidelines it should be noted that craft motions are dependent upon wave period as well as significant wave height.

5.1.2 For operational purposes, significant wave height is most reliably measured either by satellite or by a system providing real-time monitoring of the height between the sea surface and a point on the craft in conjunction with gyroscopic measurement of accelerations at that point. Alternatively, significant wave height readings could be provided by transmitting-type wave measurement buoys located along the route. In the absence of such systems, visual observations of significant wave height will be necessary, for which the guidance provided in Appendix A may be used.

5.1.3 Sea state limitations applicable to a craft may vary according to the craft's course relative to waves, but for each course should not be greater than the lowest sea state derived from taking account of the factors listed in the remainder of this section.

5.2 Damage stability

In paragraph 2.6.11 of the Code, the required minimum residual freeboard to downflooding is a function of the significant wave height corresponding to the w*orst intended conditions*.

5.3 Structural safety

5.3.1 It is clearly vital to the structural integrity of a high-speed craft that the craft is not operated outside the limitations to which the structure has been designed.

5.3.2 In this regard, and bearing in mind the equivalence of safety standards of craft covered by the Code with those of SOLAS in accordance with SOLAS chapter X, it should be noted that SOLAS regulation II-1/3-1 requires that:

> "*... ships shall be designed, constructed and maintained in compliance with the structural, mechanical and electrical requirements of a classification society which is recognized by the Administration in accordance with the provisions of regulation XI-1/1, or with applicable national standards of the Administration which provide an equivalent level of safety*".

5.3.3 Some classification society rules base their structural loadings on a limiting vertical acceleration at the longitudinal centre of gravity. In order to avoid exceeding this structural limitation, the societies may issue the craft with a diagram developed from this assumption, which relates the maximum permitted speed of the craft to the prevailing significant wave height. Refer to paragraph 8.2 of these Guidelines in relation to presentation of the resulting operating limitations, which may be determined by other factors in accordance with paragraph 1.6.

5.3.4 Sometimes speed reduction in waves may be involuntary, due to increased resistance. But deliberate speed reduction is generally necessary in order to stay within safe limits in high sea states.

5.4 Dynamic stability

5.4.1 Safe operation of most high-speed craft is significantly affected by the sea state. Safe seakeeping limitations may be as a result of some of the examples listed in paragraphs 2.1.5 and 17.5.4.1 of the Code, including most particularly: propensity to deck diving or broaching; incidence of hull or wet-deck slamming; plough-in, yawing and turning. Refer to the guidance information in Appendix B in relation to operations in following and quartering seas.

5.4.2 Implied but not explicit these limitations should also include excessively violent motions affecting the passengers and crew (see also section 5.6 of these Guidelines).

5.4.3 Paragraph 18.1.3.2 of the Code requires that the Administration be satisfied that the operating conditions on the intended route are within the capabilities of the craft. This should be verified during the trials conducted in accordance with Annex 9 and invoked by paragraph 17.2.1 of the Code.

5.4.4 Administrations should note that paragraph 3.1.2 of Annex 9 of the Code explicitly states that "*worst intended conditions, referred to in 1.4.57 of this Code, are those in which it shall be possible to maintain safe cruise without exceptional piloting skill. However, operations at all headings relative to the wind and sea may not be possible*". This provision should be taken into account when setting operating limitations in relation to dynamic stability.

5.5 Safe deployment of evacuation systems and survival craft

5.5.1 The Code places great emphasis on the ability to evacuate a high-speed craft quickly and safely, the maximum evacuation time being linked (in paragraph 4.8.1) to the structural fire protection time. To this end, paragraph 8.6.5 of the Code requires that: "*Survival craft shall be capable of being launched and then boarded ... in all operational conditions and also in all conditions of flooding ...*".

5.5.2 "All operational conditions" includes all intact loading conditions without reference to environmental conditions. "All conditions of flooding" was included to take account of the need to provide for evacuation of the craft under the damage conditions defined in chapter 2 of the Code.

5.5.3 Where the craft is to be evacuated by MES complying with the requirements of the Code, the Code assumes that the environmental conditions required for the heavy weather sea trial (in accordance with paragraph 12.6 of resolution MSC.81(70) as amended) provide an assurance of operability of the MES in heavy weather. Experience has shown that heavy weather sea trials in more severe conditions than those specified for type approval of MES involve substantial physical danger for the personnel involved.

5.5.4 Where the craft is to be evacuated directly into survival craft in accordance with paragraph 8.7.5 of the Code without the use of MES, Administrations may require evacuation trials on the craft or an identical sister high-speed craft to be conducted in weather and sea conditions up to the *worst intended conditions* specified in the Permit to Operate, in order to assure itself that such evacuation can be carried out safely in such conditions.

5.6 Safe handling limitations

5.6.1 The Code makes reference to three safety levels (see Table 1 in Annex 3) and prescribes the acceptable probability that each safety level may occur. Level 1 is expected to have a probability of occurrence of greater than 10^{-5}, i.e. frequent or reasonably probable. Table 1 in Annex 3 reveals that for Safety Level 1 (minor effect) it only prescribes that horizontal accelerations should not exceed 0.2 g.

5.6.2 In applying these standards it should be noted that paragraph 4.3.1 of the Code advises that superimposed vertical accelerations exceeding 1.0 g at the longitudinal centre of gravity should be avoided "unless special precautions are taken with respect to passenger safety". For vertical accelerations exceeding 1.0 g then hazards for safe seating of passengers and crew will ensue.

5.6.3 Similarly, Table 1 in Annex 3 of the Code stipulates acceptable maximum horizontal accelerations for severe and extreme operating conditions.

5.6.4 Table 2 in Annex 3 of the Code makes it clear that Safety Level 2 relates to conditions when emergency procedures are required and passengers may be injured, and Level 3 to conditions when there is a large reduction in safety margins, and serious injury to a small number of occupants may occur.

5.6.5 The upper limit of Level 2 corresponds to the *worst intended conditions* – see paragraph 3.3.2 of Annex 9 of the Code. Passengers must be seated before the onset of Level 2 in accordance with the Code provisions in paragraph 4.2.4 and Annex 9, paragraph 3.3.2.

5.6.6 Many forms of high-speed craft may have safe handling limitations as suggested in paragraph 17.5.4.1 of the Code, for example:

.1 Amphibious hovercraft may have to avoid certain speed and drift angle combinations in order that plough-in or skirt tuck-under and possible capsizing do not occur.

.2 Many forms of high-speed craft may have to avoid excessive bow-down trim in order to preserve safe manoeuvring behaviour, such as avoidance of bow-diving or broaching – see paragraph 17.2.1 of the Code.

.3 Guidance in this safe handling may be obtained from Appendix B and MSC.1/Circ.1228 (Revised Guidance to the master for avoiding dangerous situations in adverse weather and sea conditions), as appropriate, bearing in mind that the latter document is largely addressed to conventional ships.

5.6.7 Chapter 17 of the Code requires full-scale testing to determine operating limitations and procedures for operation of the craft within limitations. Annex 9 defines the test procedures needed to develop these operational limits. In particular section 3 of Annex 9 and Table 1 of Annex 3 define the horizontal and vertical acceleration levels which must not be exceeded to ensure passenger safety. Under normal operation conditions, craft must not exceed Safety Level 1 (0.2 g in horizontal plane) at maximum operating speed as per paragraph 3.3 of Annex 9 of the Code. In worst intended conditions, craft should not exceed Safety Level 2 (0.35g in horizontal plane). Vertical acceleration measurements are also required by Annex 9, and these limits are driven by structural limitations for which craft must not exceed the limiting vertical acceleration at the longitudinal centre of gravity as per paragraph 4.3.1 of the Code and paragraph 5.3.3 of these Guidelines. The above limits, trial results, and the significant wave height to speed table inform the process of defining operational limits. It should be noted that paragraph 17.4 of the Code requires the trials conducted under Annex 9 to include verification of the effects of failure(s) identified as being critical.

5.6.8 Although paragraph 17.1 of the Code makes provision for use of data from model tests where appropriate, wherever practicable use of such data should be confirmed by suitable trials of the craft or an identical craft. Model tests should be used to evaluate safe limits in situations that would be hazardous to investigate during sea trials. For these purposes, model tests should be taken to include mathematical modelling as well as testing of a physical model.

5.6.9 The references to vertical accelerations in paragraph 4.3.1 and Table 1 of Annex 3 of the Code should be interpreted as referring to the mean of the $1/100^{th}$ highest accelerations (not RMS), which should be measured using the criteria of footnote 1 of Table 1 of Annex 3.

6 TRIALS DEMONSTRATING PERFORMANCE IN RELATION TO OPERATING LIMITATIONS

6.1 The *worst intended conditions* of wind and sea may not be available for the conduct of the verification trials required by chapter 17 of the Code, in which case some extrapolation of satisfactory trial results may be necessary. Any extrapolation should take account of the non-linear nature of seakeeping behaviour and of variation in wave period (frequency) and height (amplitude). In such cases, the *worst intended conditions* specified on the craft's Permit to Operate should not be more than 130% of the significant wave height in which the verification trials were conducted. Extrapolation of wave period should be conducted separately from wave height. Where satisfactory trials have been completed on a craft, those trials are not required on subsequent identical sister craft, provided the operational envelope of wave height and wave period is not significantly changed. Any extrapolation based on trial results of another closely similar design of similar size (length and breadth both within 5% of that of the craft in question) must be verified through trials of the new craft. Extrapolation is not applicable to trials conducted under section 5.5 of these Guidelines.

6.2 In order that extrapolation of wave height may be conducted in a consistent manner, a minimum wave period should be associated with each significant wave height used to establish the *worst intended conditions*.

7 NAVIGATIONAL MATTERS

7.1 Casualties to high-speed craft have illustrated that there are number of navigational circumstances that need to be taken into account when establishing the operating limitations under the Permit to Operate. These include:

.1 adequacy of fixed aids to navigation on the route;

.2 night vision with regard to unlit obstacles; and

.3 other restricted visibility.

7.2 Administrations should note that paragraph 3.1.2 of Annex 9 of the Code explicitly states that "*worst intended conditions, referred to in 1.4.57 of this Code, are those in which it shall be possible to maintain safe cruise without exceptional piloting skill. However, operations at all headings relative to the wind and sea may not be possible.*" This provision can be taken into account by Administrations when setting operating limitations in relation to the craft's course-keeping and ability to follow alternative courses in worsening weather and sea conditions.

7.3 Minimum safe water depth may relate to local environmental regulations or hazards to other craft, persons and property in the operational area in addition to navigational safety. For example, Administrations may require investigation of wash waves generated by the craft that are hazardous to nearby small craft and persons on the shoreline, investigation of environmental hazards due to erosion, and any restrictions on craft speed on the specific route in relation to water depth* in order to avoid these hazards should be stipulated in the Permit to Operate.

* For wake wash waves this is based on depth Froude Number but is also dependent on the depth profile adjacent to the shore.

7.4 Where a route is considered to be especially vulnerable to grounding or stranding, Administrations may require a risk assessment of these hazards, considering the applicability of, for example:

.1 minimum safety margins around particular hazards on the route;

.2 reduced speed during critical sections of the route; or

.3 requiring two navigators in the operating compartment during critical sections of the route.

8 PRESENTATION OF OPERATING LIMITATIONS

8.1 All operating limitations shown on the Permit to Operate, irrespective of whether they relate, for example, to geographical boundaries or limits of wind, weather and sea conditions, should be presented in a manner that provides simple and clear direction to the craft's personnel and should be immediately available to the operator in the operating compartment. Wherever practicable, the information should be posted in a prominent position in the operating compartment readily visible from the operator's position(s). Supplementary and more detailed information may be provided in the Craft Operating Manual or Route Operational Manual, as appropriate.

8.2 The presented information should not extend beyond the limits of permitted operations unless clearly labelled with the purpose of the extended information. Where additional information is provided, for example to place the boundaries of the operating area in geographic context, the presentation should be such as to clearly indicate that operations outside those boundaries are not permitted.

8.3 Limitations with regard to significant wave height, if varied according to heading, may be presented in a number of forms, including:

.1 polar diagram showing safely attainable speed versus wave height and relative heading, since the safe speed in head seas will often be less than that attainable on other headings (see Figure 1 below); or

.2 graph(s) having different lines for heading angles from head through to stern at intervals of not more than 15 degrees (see Figure 2 below).

8.4 Permanently installed instruments may be provided to guide the craft's personnel in maintaining safe operating conditions, particularly in respect of structural safety, through direct onboard monitoring of vertical and lateral accelerations and/or measurement of wave height. Where the operational limitations include limiting sea conditions covering hazards other than those covered by the instrumentation, the specified limiting sea conditions should not be exceeded irrespective of the guidance information provided by the instrumentation system. The instrumentation should:

.1 be calibrated and verified by or on behalf of the flag Administration as providing clear, accurate and reliable information to operating personnel for the safe operation of the craft in accordance with paragraph 4.2.4 of the Code;

.2 meet the requirements of paragraph 17.1 of the Code for the conduct of verification trials;

.3 be supplemented by sea state limitations that are to be adhered to in the event of failure of the instrumentation; and

.4 trials required by Annex 9 of the Code in relation to areas monitored by the instrumentation should be limited to those necessary under subparagraph .1 above for verification of the instrumentation system.

8.5 Where the information provided in accordance with paragraph 8.1 is not consolidated so as to cover all hazard areas in a single display or document, its presentation should unambiguously facilitate simultaneous compliance with **all** operational limitations listed on the Permit to Operate, addressing as appropriate all the hazards associated with the safe operation of the craft such as those covered in all the preceding sections of these Guidelines.

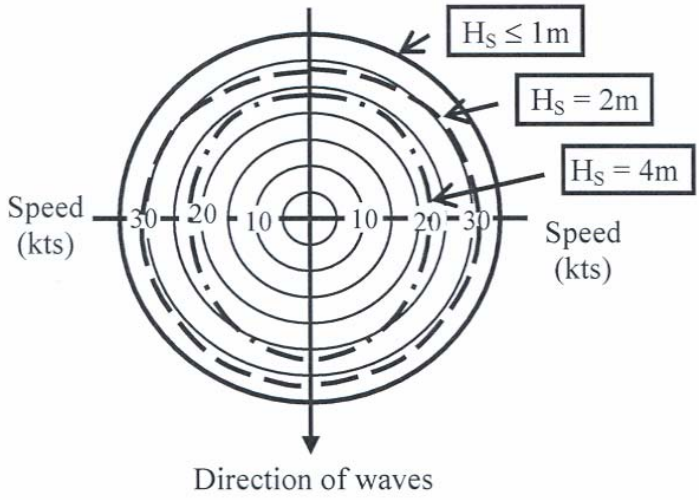

Figure 1

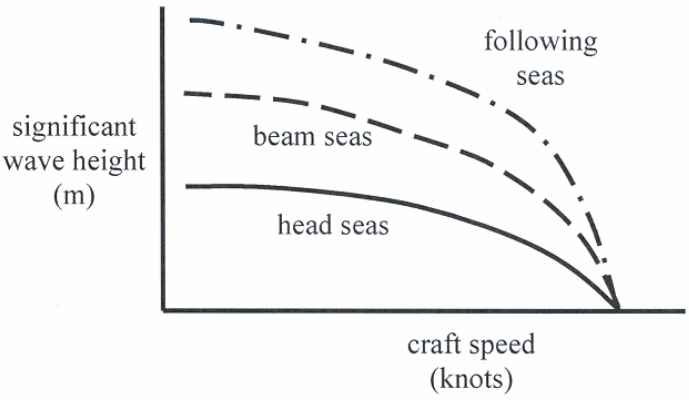

Figure 2

APPENDIX A

VISUAL ESTIMATION OF SIGNIFICANT WAVE HEIGHT*

1 A typical record of wave traces is shown in Figure A1 below.

2 The record is, in general, complex and shows immediately all the difficulties inherent in eye observation. For example, are all the waves to be considered on an equal footing or are only the big waves to be counted? Since the wave characteristics vary so much, what average values shall be taken? It is obvious that if comparable results are to be obtained the observer must follow a definite procedure. The flat and badly formed waves ("A" in Figure A1) between the wave groups cannot be observed accurately by eye and different observers would undoubtedly get different results if an attempt were made to include them in the record. The method to be adopted, therefore, is to observe only the well-formed waves in the centre of the wave groups. The observation of waves entails the measurement or estimation of the following characteristics:

Direction Period Height

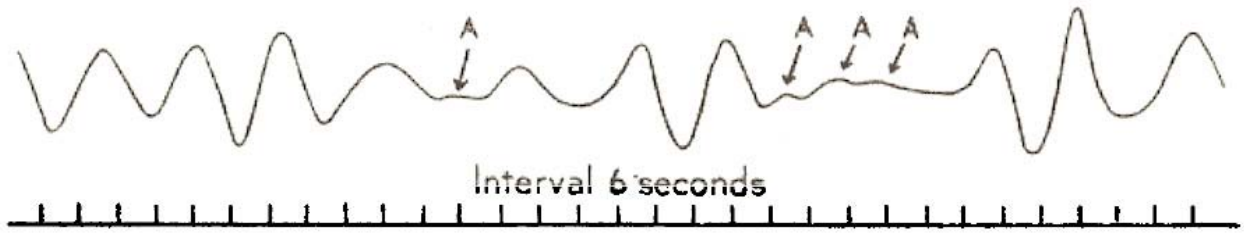

Figure A1 – Wave form of the sea surface

3 Reliable average values of period and height can only be obtained by observing at least twenty waves. Of course these cannot be consecutive; a few must be selected from each succeeding wave group until the required number has been obtained. Only measurements or quite good estimates are required. Rough guesses have little value and should not be recorded. It will often be found that there are waves coming from more than one direction. For example, there may be a sea caused by the wind then blowing and a swell caused by a wind that has either passed over or is blowing in a distant area. Or there may be two swells (i.e. cross swells) caused by winds blowing from different directions in distant areas. In such cases the observer should distinguish between sea and swell, and report them separately, giving two groups for swell when appropriate. The direction, height and period of the sea wave may be quite different from that of the swell wave. It will, however, often happen – particularly with winds of Beaufort force 8 and above – that the sea and swell waves are both coming from the same direction. In that case it is virtually impossible to differentiate between sea and swell and the best answer is to look upon the combined wave as being a sea wave and log it accordingly.

* Reproduced from Meteorological Office (UK), *The Marine Observers Handbook*, Her Majesty's Stationery Office, London, 1969.

Observing waves from a moving ship

4 Care must be taken to ensure that the observations, especially those of period, are not influenced by the waves generated by the motion of the ship.

4.1 DIRECTION FROM WHICH THE WAVES COME. This is easily obtained either by sighting directly across the wave front or by sighting along the crests of the waves and remembering that the required direction differs from this by 90 degrees. Direction is always recorded true, not magnetic.

4.2 PERIOD*. For measurements of period a stopwatch is desirable. If this is not available an ordinary watch with a seconds hand may be used or, alternatively, a practised observer may count seconds. The observer selects a distinctive patch of foam or a small object floating on the water at some distance from the ship, and notes the time at which it is on the crest of each successive wave. The procedure is repeated for the larger waves of each successive group until at least twenty observations are available. The period is then taken as the average time for a complete oscillation from crest to crest. In a fast ship it will be found that the "patch of foam" method will rarely last for more than one complete oscillation and that many waves have to be observed separately. With practice, suitable waves can easily be picked out and the timing from crest to crest becomes quite simple. When it is desired to use an object (an empty beer can is usually conspicuous against the sea and will remain afloat long enough to serve its purpose) it should be thrown as far forward as possible. Another method available to the observer with a stopwatch is to observe two or more consecutive "central" waves of a wave group while the watch is running continuously, then to stop the watch until the central waves of the next wave group appear, the watch being then restarted. This procedure is repeated until at least twenty complete oscillations have been observed. The period is then obtained by dividing the total time by the number of oscillations. It is important to note that the periods between times of crests passing a point on the ship are not the ones required.

4.3 HEIGHT. Although wave-recorders are fitted to a few research ships, there is at present no method of measuring the height of waves suitable for general use on merchant ships, but a practised observer can make useful estimates. The procedure to be adopted depends on the length of the waves relative to the length of the ship. If the length of the waves is short in comparison with the ship's length, i.e. if the ship spans two or more wave crests, the height should be estimated from the appearance of the waves at or on the side of the ship, at times when the pitching and rolling of the ship is least. For the best result the observer should take up a position as low down the ship as possible, preferably amidships where the effect of pitching is least, and on the side of the ship towards which the waves are coming.

4.3.1 This method fails when the length of the waves exceeds the length of the ship, for then the ship rises bodily with the passage of each wave crest. The observer should then take up a position in the ship so that his eye is just in line with the advancing wave crest and the horizon, when the ship is vertical in the trough. The height of eye above the ship's waterline is then the height of the wave. The nearer the observer is to an amidships position the less chance will there be of the measurement being vitiated by pitching. If the ship rolls heavily it is particularly important to make the observation at the moment when she is upright in the trough.

* **Note (additional to original text):** There are several different definitions of wave period, such as modal period, zero up-crossing period, etc. The visual observation of wave period does not necessarily represent the necessary wave periods required for numerical processing, and corrections should be made as appropriate.

Exaggeration of estimates of wave height is mostly due to errors caused by rolling (see Figure A2). When the ship is rolling (b), the observer at "0" has to take up a higher position to get a line on the horizon than when she is upright (a).)

Figure A2(a)

Figure A2(b)

4.3.2 The observation of height of waves is most difficult when the length of the waves exceeds the length of the ship and their height is small. The best estimate of height can be obtained by going as near the water as possible, but even then the observation can only be rough. In making height estimates an attempt should be made to fix a standard of height in terms of the height of a man or the height of a bulwark, forecastle or well-known dimension in the ship. There is generally a tendency to overestimate the height of short waves and underestimate the height of long waves.

4.3.3 Estimating the height of a wave from a high bridge in a fast ship is a difficult job and much will depend on the skill and ingenuity of the observer; in many cases all one can hope for is a very rough estimate. All estimates of wave height should be made preferably with the ship on an even keel so that the observer's height of eye is consistent. The inherent difficulties already mentioned, together with the practical difficulties of estimation, make it essential that the recorded height be the average value of about twenty distinct observations. These observations should be made on the central waves of the more prominent wave groups.

Wave observations at night or in low visibility

5 Under these conditions the most that the observer can normally hope to record is direction and an estimate of height, or perhaps direction only, which would at least indicate the presence of waves. Such observations might be of considerable value in tropical waters in the hurricane season. It is only on very bright nights that the observation of period would be practicable.

* * *

APPENDIX B

GUIDANCE FOR OPERATION OF HIGH-SPEED CRAFT IN FOLLOWING AND STERN QUARTERING SEAS

1 GENERAL

1.1 This note has, as its primary aim, the provision of advice to mariners on what to expect and how to handle a high-speed craft in severe following and stern quartering seas. The guidance offered here is based, not only on the recent research, but also on the accumulated experience of practising mariners.

1.2 The principal hazards likely to be experienced by a high-speed craft in severe following or stern quartering seas are surfing, bow-diving and broaching.

1.3 The master will be in a better position to avoid dynamic problems if he has instruments that inform of the behaviour of his vessel and information on the sea states he is likely to encounter on the voyage. These parameters include vessel speed, heading, vertical acceleration, longitudinal acceleration, wave forecasts and current sea state.

1.4 Following seas refer to seas which are dead astern while stern quartering seas refer to wave directions between dead astern and 45^{o} from dead astern.

1.5 Bar crossings may involve behaviours similar to a number of those outlined in this Appendix. As this guidance is of a general nature, it does not include specific information on bar crossing for which the hazards and behaviours are highly variable according to the individual circumstances. Specific information in this regard in relation to the craft and its route should be provided in the Route Operational Manual.

1.6 It should be noted that the advice given in this note is for guidance only and should augment and not replace the skill and judgement of the mariner, or the tenets of good seamanship.

2 CRITICAL BEHAVIOUR IN FOLLOWING AND STERN QUARTERING SEAS

2.1 Trapping

Trapping can occur when the craft is moving directly down-wave in waves whose length is roughly equal to the waterline length of the vessel. When cresting one wave, the craft will experience a reduction in resistance, which will cause it to accelerate into the trough ahead and immerse its fore-body in the next wave. If this does not result in a bow dive, the craft will experience a significant increase in resistance that will slow it down to the speed of the waves. It can be the precursor to a bow-dive.

Warning signs:

- moving at the speed of the wave, see Table 1; **and**
- one wave crest at the stern and another at the bow; **and**
- wave height greater than 4% craft waterline length;
- craft becomes trapped between two successive crests.

Corrective action:

- slow down and allow the waves to draw ahead.

2.2 Surging and surfing

When a high-speed craft is moving in following seas which are directly astern and where the wave length is about the same as or greater than the vessel length, it may accelerate and decelerate in surge as the crests pass. Such surge velocities may differ by as much as 50% of the average speed and are caused by significant changes in resistance and propulsive efficiency as the waves pass. Without warning the craft may accelerate rapidly to the speed of the wave and surf. Surfing is best avoided if at all possible because of the almost total loss of control that occurs while it is in progress. Surfing can be the precursor to a bow-dive, or a broach.

Warning signs:

- large variations in craft speed at constant throttle;
- craft is moving at wave speed plus or minus 10% ($^1/_{10}$th), see Table 1; **and**
- the wave length is between 1 to 2.5 times craft waterline length; **and**
- the craft has a slight bow-down pitch attitude, with a wave crest abaft amidships;
- response to steering controls is poor;
- breaking waves increase the tendency to surf.

Corrective action:

- avoid running at wave speed (see Table 1) in waves of dangerous length;
- if caught in a surf wait until the critical wave has passed without attempting any major helm action;
- afterwards, slow down.

2.3 Bow-diving

Bow-diving occurs when a high-speed craft buries its bow into a wave in following or stern quartering seas. This causes all way to be lost, the vessel experiences a severe bow-down pitch and the bow becomes submerged, sometimes resulting in structural damage and injury to personnel. It is particularly severe for vessels such as catamarans with a cross deck and limited residual buoyancy forward. It is different to bow immersion in head seas as the wave behind lifts the stern and worsens the situation.

Bow-diving may have a slow onset if moving at wave speed, but may be dramatic without warning if craft is moving substantially faster than the waves.

Warning signs:

If preceded by trapping (see 2.1 above):

- as for trapping; **and**
- wave height greater than about 75% ($^3/_4$) of bow freeboard when stopped; **and**
- waves from between directly astern and the quarter;
- bow almost immersed to the deck or top of cross-structure.

If craft is moving faster than the waves and:

- waves from between directly astern and the stern quarter; **and**
- wave height greater than 25% ($^1/_4$) of bow freeboard when stopped; **and**
- wave length 100% to 150% of the waterline length of the craft.

Corrective action:

- avoidance by attention to the warning signs;
- avoiding any trim by the bow;
- slow down to less than about 70% of wave speed;
- alternatively, if practicable, change course, even to head seas.

2.4 Broaching

Broaching is a severe, and often uncontrollable, yawing movement in following seas which turns the vessel beam on to the waves resulting in a dangerously heavy roll, and a sideways sliding motion down-sea. In monohulls with insufficient stability it can result in capsize. It may be preceded by surfing.

Warning signs:

- desired course slightly or appreciably across the waves, up to 45° from directly down-sea;
- wave length similar to craft waterline length, or slightly shorter in quartering seas; **and**
- craft speed similar to wave speed plus or minus 15% ($^1/_7$th), see Table 1; **and**
- wave height greater than 4% craft waterline length; **and**
- bow-down attitude and bow burying into wave ahead;
- up-sea waterjets or propellers beginning to ventilate;
- severe yaw motions either side of intended course;
- surfing.

Corrective action:

- avoid a diagonal course across the waves, i.e.: up to 45° from directly down-sea;
- avoid running close to wave speed (see Table 1) in waves of dangerous length;
- reduce speed to less than about 70% of wave speed;
- after a broach, directional control is best reasserted by reducing speed.

3 OTHER BEHAVIOUR WHICH MAY OCCUR

Masters should also be aware of the other types of behaviour that may occur, *viz*:

- loss of transverse stability due to loss of waterplane area when poised on a wave;
- slamming, which can occur with high-speed craft in following seas if their speed is at least twice the speed of the waves;
- synchronous rolling, which occurs in stern quartering seas when the period of the transverse components of the waves coincides with the natural roll period of the craft;

- parametric rolling, which can occur in following seas if the length of time each wave takes to pass the craft is approximately equal to half the natural roll period;
- combinations of behaviour, such as surfing which can lead to a broach or a bow-dive; both of which can lead to further severe events such as fore-deck immersion or capsize.

4 SUMMARY

4.1 Craft speed

4.1.1 It is important that speed should be appropriate for the sea conditions. In a following or stern-quartering sea, it is comparatively easy to determine whether the craft is moving faster or slower than the dominant waves in daylight. At night-time, however, such assessments are not so easy.

4.1.2 Craft speed, it is assumed, will be known with some accuracy. If not, then, when moving at or near the dominant wave speed (and possibly trapped or in danger of surfing), pitch and heave motions will be considerably reduced, but surge motions will be significantly increased.

4.1.3 A rough idea of the speed of the dominant waves in a given sea state can be obtained from Table 1, according to the type of waters in which the craft is operating.

Table 1 – Tabulated typical wave speeds (knots)

Significant wave height (m)	**1**	**2**	**3**	**4**	**5**	**6**
Coastal waves (knots)	15 - 18	17 - 23	19 - 27	20 - 30	21 - 33	23 - 35
Ocean waves (knots)	19 - 29	21 - 31	25 - 35	29 - 39	32 - 42	36 - 46

4.2 Wave length

It can be seen from the advice given above that wave length in relation to the waterline length of the craft is also important in assessing the vulnerability to adverse behaviour. It is therefore important to monitor the length of the waves in which the craft is being operated.

4.3 Tabular summary

Table 2 summarizes the guidance given in this note.

Table 2 – Summary of guidance in following and quartering seas

Behaviour	Critical craft speed		Critical wave length		Critical wave heights
Trapping	$\approx V_W$	and	$\approx L_S$	and	$> 4\% L_S$
Surfing	$\approx V_W \pm 10\%$	and	$\approx 1 \rightarrow 2.5 L_S$	and	$> 4\% L_S$
Bow-diving (slow)	$\approx V_W$	and	$\approx L_S$	and	$>75\%$ F
Bow-diving (sudden)	$> V_W$	and	$\approx 1 \rightarrow 1.5 L_S$	and	$> 25\%$ F
Broaching	$\approx V_W \pm 15\%$	and	$\approx L_S$	and	$> 4\% L_S$

***Key*:** ≈ is approximately equal ± is plus or minus
> is greater than V_W is wave speed
L_S is ship length F is bow freeboard when stopped

***

ANNEX 14

DRAFT MSC CIRCULAR

GUIDELINES FOR MAINTENANCE AND REPAIR OF PROTECTIVE COATINGS

1 The Committee, at its [eighty-sixth session (27 May to 5 June 2009)], having recognized the need for Guidelines for maintenance and repair of protective coatings, taking into account the amendments to SOLAS regulations II-1/3-2 and XII/6 and the Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers, adopted by resolutions MSC.216(82) and MSC.215(82), respectively, considered the proposal by the Sub-Committee on Ship Design and Equipment, at its fifty-second session, and approved Guidelines for maintenance and repair of protective coatings, set out in the annex.

2 Member Governments are invited to apply the annexed Guidelines during survey, assessment and repair of protective coatings in ballast tanks on or after [1 January 2011] and bring them to the attention of shipowners, shipbuilders and other parties concerned.

ANNEX

GUIDELINES FOR MAINTENANCE AND REPAIR OF PROTECTIVE COATINGS

CONTENTS

1 GENERAL

1.1 The purpose of these Guidelines is to assist surveyors, shipowners, shipyards, flag Administrations and other interested parties involved in the survey, assessment and repair of protective coatings in ballast tanks.

1.2 The ability of the coating system to reach its target useful life depends on the type of coating system, steel preparation, the design of the structures, application and coating inspection and maintenance. All these aspects contribute to the good performance of the coating system. These Guidelines focus on maintenance and repair procedures for coatings.

1.3 Maintenance and repair of the protective coating system should be included in the ship's overall maintenance and repair scheme. The effectiveness of the protective coating system, which may include the use of anodes, should be verified during the life of a ship by the Administration or an organization recognized by the Administration.

2 APPLICATION AND DEFINITIONS

2.1 These Guidelines apply to ships as specified in SOLAS regulation II-1/3-2.1.1 and focus on maintenance and repair procedures for coatings in dedicated seawater ballast tanks of all types of ships and double-side skin spaces of bulk carriers, hereinafter referred to as "ballast tanks". They only cover in-service maintenance and repair of coatings. Corrosion prevention systems other than coating are not covered.

2.2 For the purpose of these Guidelines, the following definitions apply:

.1 *Maintenance* means minor coating restoration work regularly performed by a ship's crew using normal shipboard means and tools to maintain "GOOD" or "FAIR" coating conditions. Maintenance delays or slows down the coating deterioration and effects short term steel protection.

.2 *Repair* means coating restoration work of a longer term nature, usually performed during ship's drydocking or scheduled repair period (ship idle) to restore the "FAIR" or "POOR" coating condition to "GOOD" condition. This will usually require specialized manpower and equipment such as sand blasting equipment, operators and dehumidifiers.

2.3 These Guidelines have been developed using the best information currently available and taking into consideration that maintenance may take place when the ship is at sea, while repair usually takes place in drydock or during scheduled repair periods (afloat at yard).

3 SURVEY RECOMMENDATIONS

3.1 The coating system in ballast tanks should be examined in connection with:

.1 intermediate surveys for all steel ships above 500 gross tonnage exceeding five years of age; and

.2 special surveys for all steel ships above 500 gross tonnage.

3.2 The condition of the coating in ballast tanks should be assigned and categorized as GOOD, FAIR or POOR based on visual inspection and estimated percentage of areas with coating failure and rusty surfaces (see table 1) and recorded*.

4 COATING CONDITIONS

4.1 "GOOD", "FAIR", "POOR"

4.1.1 The condition of the coating in ballast tanks is assigned and categorized as "GOOD", "FAIR" or "POOR", based on visual inspection and estimated percentage of areas with coating failure and rusty surfaces.

4.1.2 The definitions of coating conditions "GOOD", "FAIR" and "POOR" in the Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers (resolution A.744(18)) are as follows:

GOOD: Condition with only minor spot rusting.

FAIR: Condition with local breakdown of coating at edges of stiffeners and weld connections and/or light rusting over 20% or more of areas under consideration, but less than as defined for POOR condition.

POOR: Condition with general breakdown of coating over 20% or more of areas or hard scale at 10% or more of areas under consideration.

4.1.3 These Guidelines clarify the above definitions in order to achieve unified assessment of coating conditions as follows, see also table 1 below:

GOOD: Condition with spot rusting on less than 3% of the area under consideration without visible failure of the coating. Rusting at edges or welds, must be on less than 20 % of edges or weld lines in the area under consideration.

FAIR: Condition with breakdown of coating or rust penetration on less than 20% of the area under consideration. Hard rust scale must be less than 10% of the area under consideration. Rusting at edges or welds must be on less than 50% of edges or weld lines in the area under consideration.

POOR: Condition with breakdown of coating or rust penetration on more than 20% or hard rust scale on more than 10% of the area under consideration or local breakdown concentrated at edges or welds on more than 50% of edges or weld lines in the area under consideration.

* Refer to appendix 10 to IACS Recommendation 87 – Guidelines for Coating Maintenance and Repairs for Ballast Tanks and Combined Cargo/Ballast Tanks on Oil Tankers, revision 1, 2006.

Table 1 – "GOOD", "FAIR" and "POOR" coating conditions

	GOOD [3]	FAIR	POOR
Breakdown of coating or area rusted [1]	< 3%	3 – 20%	> 20%
Area of hard rust scale [1]	-	< 10%	≥ 10%
Local breakdown of coating or rust on edges or weld lines [2]	< 20%	20 – 50%	> 50%

Notes:

(1) % is the percentage calculated on basis of the area under consideration or of the "critical structural area"

(2) % is the percentage calculated on basis of edges or weld lines in the area under consideration or of the "critical structural area"

(3) spot rusting, i.e. rusting in spot without visible failure of coating

4.1.4 The above clarifications are further exemplified in IACS Recommendation 87 via photographs along with narrative descriptions of the condition and uniform and localized assessment scales*.

4.2 Areas under consideration

4.2.1 *General*

4.2.1.1 Recognizing that different areas in the tank experience different coating breakdown and corrosion patterns, the intent of this section is to subdivide the planar boundaries of the tank for evaluation of coating into areas small enough to be readily examined and evaluated by the surveyor. However, the areas subdivided should not be so small as to be structurally insignificant or too numerous to practically report on. Coating condition in each area should be reported using current practice and terminology (frame numbers, longitudinal numbers and/or strakes numbers, etc.). Each area is then rated "GOOD", "FAIR" or "POOR" and the tank rating should not be higher than the rating of its "area under consideration" having the lowest rating**.

4.2.1.2 Special attention should be given to coating in critical structural areas which are defined*** as "locations which have been identified from calculations to require monitoring as indicated in the Coating Technical File (CTF) from new building stage or from the service history of the subject ship or from similar or sister ships (if available) to be sensitive to cracking, buckling or corrosion which would impair the structural integrity of the ship". Each critical structural area is rated "GOOD", "FAIR" or "POOR", applying table 1 and the rating of each "area under consideration" should then not be higher than the rating of its critical structural area (if present) having the lowest rating.

---

* Refer to appendices 8 and 9 of IACS Recommendation 87 – Guidelines for Coating Maintenance and Repairs for Ballast Tanks and Combined Cargo/Ballast Tanks on Oil Tankers, revision 1, 2006.

** Examples of how to report coating conditions with respect to areas under consideration are given in appendix 10 of IACS Recommendation 87.

*** Refer to appendix 5 of IACS Recommendation 87.

4.2.1.3 The "area under consideration" with the worst coating condition should determine the frequency of surveys, such as those addressed in resolution A.744(18) for tankers. Hence, it is not intended to "average" the coating condition for all "areas under consideration" within a tank, to determine an "average" coating condition for the entire tank.

4.2.2 *Ballast tanks in oil tankers*

Definitions of "areas under consideration" for ballast tanks in oil tankers are as follows (also illustrated for a wing ballast tank, a fore peak ballast and aft peak tank in figures 1, 2 and 3 below, respectively).

Single-hull tanker – wing ballast tanks

Deck and bottom

Areas of deck and bottom plating with attached structure (one area to consider for deck and one area to consider for bottom).

Side shell and longitudinal bulkheads

Areas of side shell and longitudinal bulkheads with attached structure, in lower, middle and upper third (three areas to consider for side shell and three areas to consider for longitudinal bulkhead).

Transverse bulkheads (forward and aft)

Areas of transverse bulkhead and attached stiffeners, in lower, middle and upper third (three areas to consider for forward transverse bulkhead and three areas to consider for aft transverse bulkhead).

Double-hull tanker

Double bottom ballast tank

Areas of tank boundaries and attached structure, in lower and upper half of tank (two areas to consider).

Double-hull side tank

Deck and bottom

Areas of deck and bottom plating with attached structure (one area to consider for deck and one area to consider for bottom).

Side shell and longitudinal bulkheads

Areas of side shell and longitudinal bulkheads with attached structure, in lower, middle and upper third (three areas to consider for side shell and three areas to consider for longitudinal bulkhead).

Transverse bulkheads (forward and aft)

Areas of transverse bulkhead and attached stiffeners, in lower, middle and upper third (three areas to consider for forward transverse bulkhead and three areas to consider for aft transverse bulkhead).

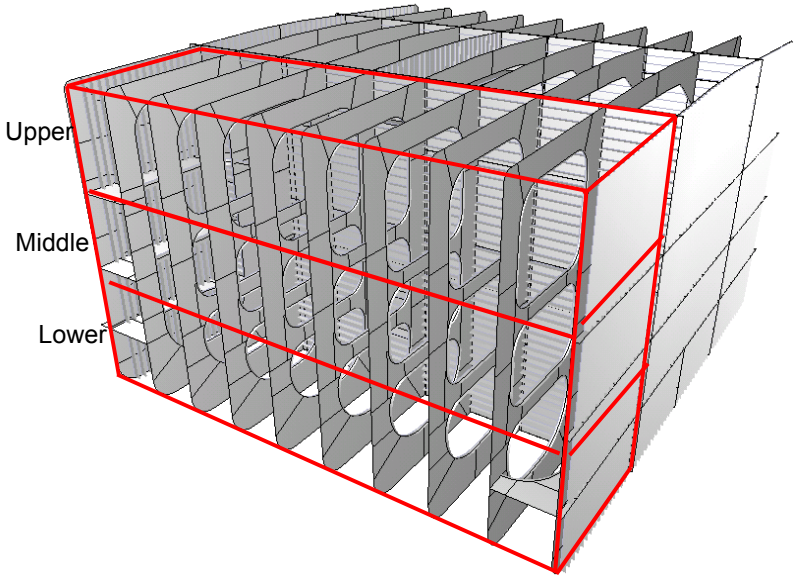

Figure 1 – "Areas under consideration" indicated for a wing ballast tank, from one side, i.e. deck, side shell, longitudinal bulkhead and transverse bulkheads

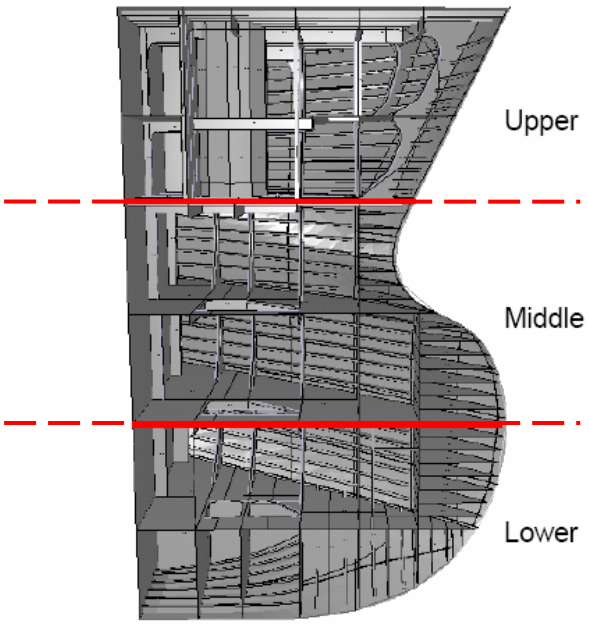

Figure 2 – "Areas under consideration" indicated for a fore peak ballast tank

Fore peak tanks

Areas of tank boundaries and attached structure, in upper, middle and lower third of tank (three areas to consider).

After peak tanks

Areas of tank boundaries and attached structure, in lower and upper half of tank (two areas to consider).

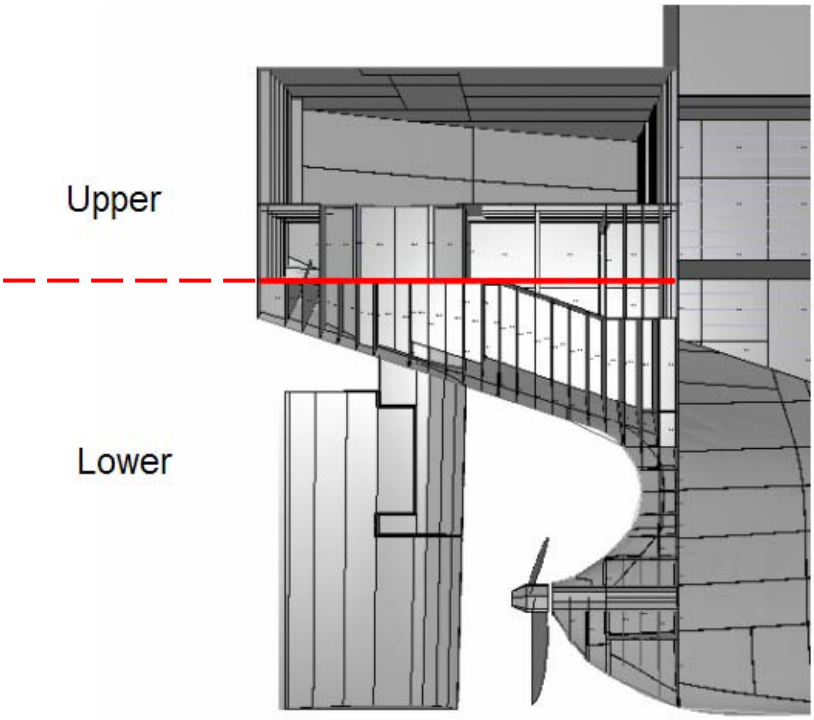

Figure 3 – "Areas under consideration" indicated for an aft peak tank

4.2.3 *Ballast tanks in ships other than oil tankers*

Definitions of "areas under consideration" for ballast tanks and double-side skin spaces in ships other than oil tankers, which are based on representative tank configuration, are as follows (also illustrated for topside tanks, hopper tanks, double bottom tanks, side tanks, fore peak tanks and after peak tanks in figures 4 to 9 below, respectively):

Topside tanks

Deck, vertical strake and bottom

Areas of deck, vertical strake and bottom plating with attached structure (one area to consider for deck and vertical strake with attached structure and one area to consider for bottom).

Side shell

Side shell with attached structure, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for side shell, but if the vertical height is more than 15 m, three areas to consider).

Transverse bulkheads (forward and aft)

Areas of transverse bulkhead and attached stiffeners, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for forward transverse bulkhead and aft transverse bulkhead, but if the vertical height is more than 15 m, three areas to consider).

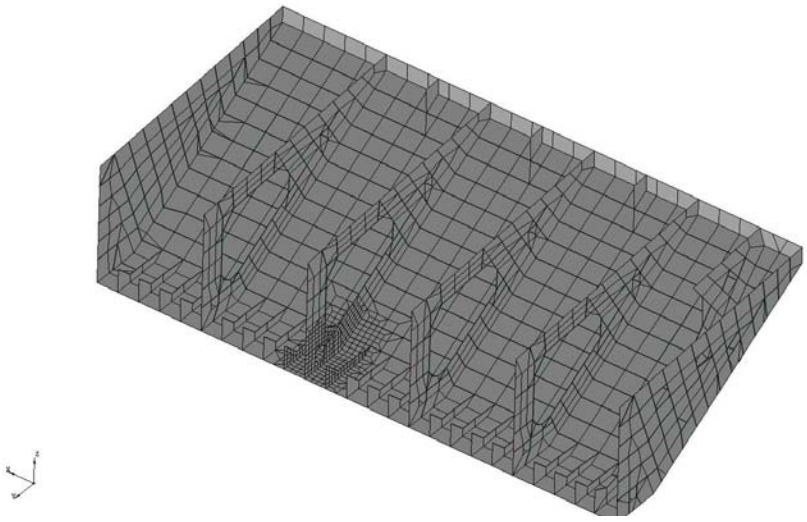

Figure 4 – Topside tanks

Hopper tanks

Hopper, side girder and bottom

Areas of hopper, side girder and bottom plating with attached structure (one area to consider for bottom and side girder with attached structure and one area to consider for hopper).

Side shell

Side shell, including bilge plating, with attached structure, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for side shell, but if the vertical height is more than 15 m, three areas to consider).

Transverse bulkheads (forward and aft)

Areas of transverse bulkhead and attached stiffeners, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for forward transverse bulkhead and aft transverse bulkhead, but if the vertical height is more than 15 m, three areas to consider).

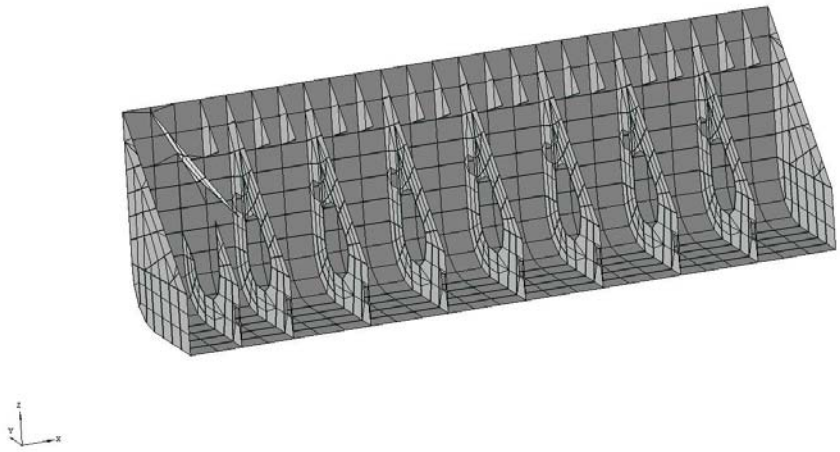

Figure 5 – Hopper tanks

Double bottom tanks

Areas of tank boundaries and attached structure, in lower and upper half of tank (two areas to consider).

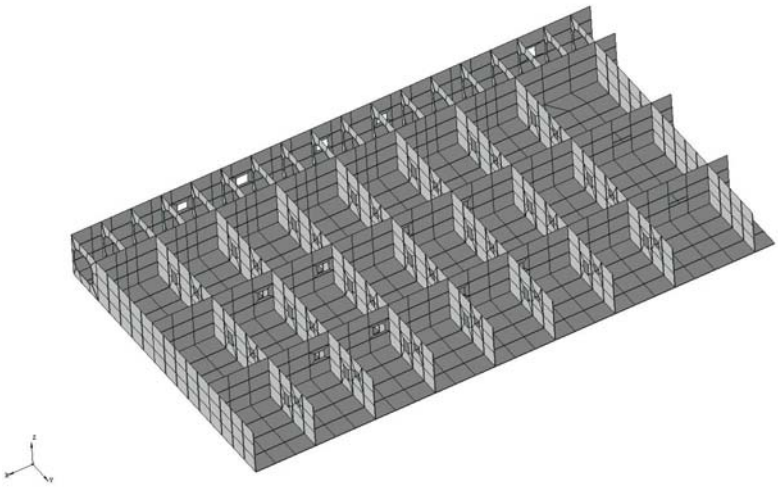

Figure 6 – Double bottom tanks

Side tanks

Deck and bottom

Areas of deck and bottom plating with attached structure (one area to consider for deck and one area to consider for bottom).

Side shell and longitudinal bulkheads

Side shell and longitudinal bulkheads with attached structure, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for side shell, but if the vertical height is more than 15 m, three areas to consider).

Transverse bulkheads (forward and aft)

Areas of transverse bulkhead and attached stiffeners, in lower and upper or in lower, middle and upper depending on the vertical height (two areas to consider for forward transverse bulkhead and aft transverse bulkhead, but if the vertical height is more than 15 m, three areas to consider).

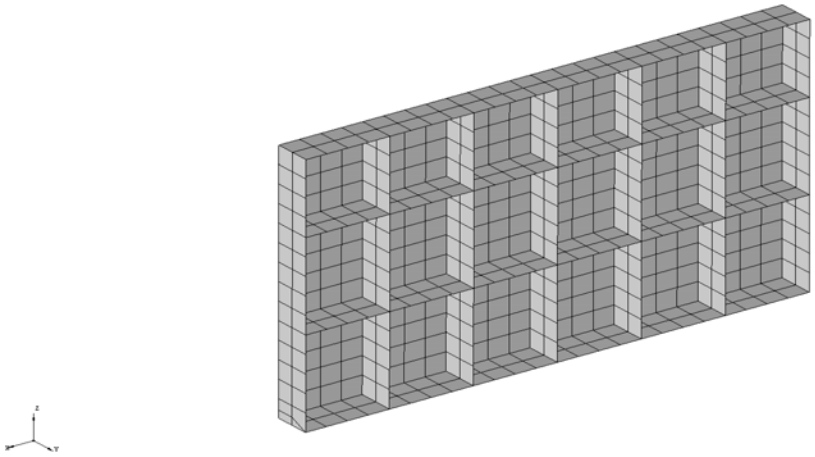

Figure 7 – Side tanks

Fore peak tanks

Areas of tank boundaries and attached structure in upper and lower or upper, middle and lower depending on the vertical height (two areas to consider for fore peak tanks, but if the vertical height is more than 15 m, three areas to consider).

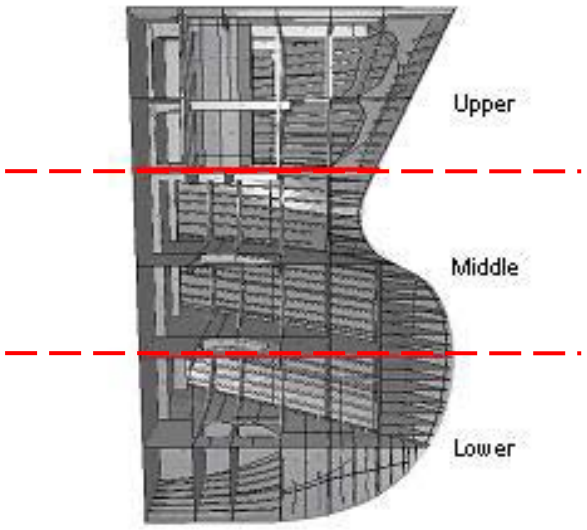

Figure 8 – Fore peak tanks

After peak tanks

Areas of tank boundaries and attached structure in upper and lower (two areas to consider).

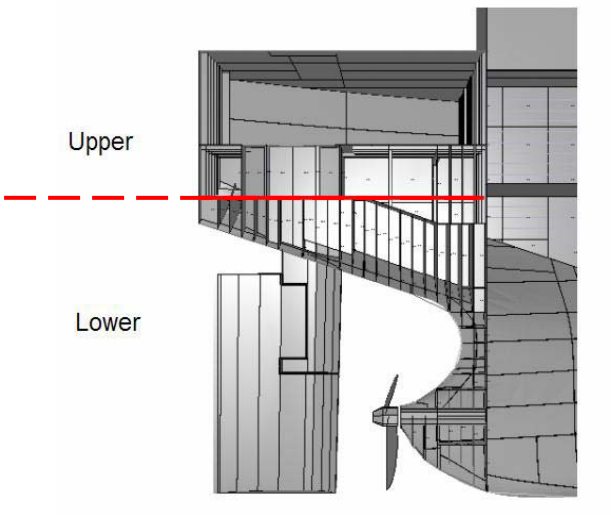

Figure 9 – After peak tanks

Notes:

1 Each area includes plating and attached structural members.

2 A tank configuration which is combined with two or more tanks may be dealt with in separate in accordance with its unit shape of tank configuration, e.g., a tank which has a combination figure of a hopper tank and a double bottom tank or a tank which is combined with a wing tank, a side tank and a hopper tank.

3 For fore peak tank or after peak tank, which consists of ballast tank and void space, they should be separately considered. It is important to note that void spaces are not considered under these Guidelines.

If the vertical height of ballast tanks other than double bottom tanks, fore peak tank, and after peak tank is more than 15 m, it should be divided into three areas under consideration as shown in table 1.

Table 1

Maximum vertical height (h) of tank	Areas under consideration (vertical)
$h \leq 15$ m	Two areas (lower/upper)
$h > 15$ m	Three areas (lower/middle/upper)

When deciding the boundary between lower/(middle)/upper parts for areas under consideration of the vertical surface, other than dividing the vertical surface equally by the number of areas decided according to table 1, the conspicuous structural member(s) such as stringers and/or horizontal girders on bulkheads or side shell may be the boundary, which should be mentioned in the report.

4.3 In-service condition monitoring

4.3.1 It is recommended that all ballast tanks, especially for ships over six years of age, are inspected at least annually by the crew.

4.3.2 Standardized reports should be used with the following information, where applicable:

.1 ship's name;

.2 tank number;

.3 inspection date;

.4 inspection by whom;

.5 year coated;

.6 coating name/type;

.7 last repaired;

.8 surface area;

.9 coating condition (GOOD, FAIR or POOR);

.10 Pitting corrosion – Yes/No;

.11 amount of rust scale (in m^2 or % of areas under consideration);

.12 access arrangement condition;

.13 sounding pipe condition;

.14 vent pipe condition;

.15 ballast pipes condition;

.16 structural damage, mechanical damage, location and extent; and

.17 other comments.

4.3.3 The coating condition rating is used to give an objective report of the condition so that the urgency of the repairs can be established and the most cost effective solution found. The suitable rating system for this purpose is GOOD/FAIR/POOR as specified in section 4.1. A copy of the latest standardized report should be maintained on board for use of the owner.

5 COATING MAINTENANCE

5.1 Process considerations for maintenance

5.1.1 Major considerations are:

.1 safety;

.2 salt contamination;

.3 rust scale;

.4 pitting corrosion;

.5 temperature;

.6 condensation;

.7 ventilation; and

.8 compatibility of coating systems.

5.1.2 **Safety**. Refer to resolution A.864(20) – Recommendations for entering enclosed spaces aboard ships. It is an absolute requirement that all of the ship's safety and tank entry procedures and policies are adhered to. In addition, it is strongly recommended that all travel coating squad members are trained in safe usage of all the equipment and tools to be used for the project on board, before being sent to the ship.

5.1.3 **Salt contamination** will cause accelerated deterioration of the maintenance coating if not removed prior to coating application. A recommended procedure to reduce salt contamination is to remove loose rust scale followed by good fresh water rinsing, if possible. This should be the starting point in any surface preparation process in ballast tanks on board ships.

5.1.4 **Rust scale** that is not removed prior to coating application will cause early failure. Loose top-scale is easy to remove, however the inner (black) hard scale is much more adherent. When over-coated it will soon detach between the steel and the scale and come off, typically with the coating adhering very well to the outside of it. If the hard scale cannot be removed, the service life expectancy of the treatment is 1 to 2 years regardless of the coating used.

5.1.5 **Pitting corrosion** is a common problem in ballast tanks that have been exposed to seawater for some time. If it has been accepted that the pits need not be welded up, in order to prevent further accelerated damage, a coating should be applied. Soluble salts will be present within the pits and it is essential that these are removed otherwise corrosion will soon start inside over-coated pits, affecting the service life. Various methods of salt removal from pits have been proposed for long term repair, however, for shipboard maintenance purpose, high pressure fresh water washing is highly recommended, if available.

5.1.6 When Microbiologically Influenced Corrosion (MIC) is involved, the pits are of a much wider nature, typically "shiny" clean inside with sharp edges to unaffected surrounding steel and often with a foul smell, like rotten egg, being evident when breaking up the scale cap. An MIC attack can proceed very deep, very fast.

5.1.7 **Temperature** is a critical parameter to consider. When trading in cold water it will be hard to keep the inside tank surfaces free from condensation and to cure the coating in a timely manner. Plan, if possible, the maintenance operation for periods, or locations, of warmer water.

5.1.8 **Condensation** is always a risk on board ships. It is advisable that the crew have a good understanding about relative humidity and its relation to substrate temperature and dew point. To paint over a surface that is at or below the dew point, or that will be at or below the dew point while the coating is wet, will not perform. Ideally the temperature should be at least 3°C above the dew point.

5.1.9 **Ventilation** is a vital factor. This is one item that clearly supports both the quality of the application and the safety of the operation. Arrange the ventilation that it extracts from the lowest and furthest corners to ensure the fast and efficient removal of dangerous solvents. The use of solvent free coating systems does not mean that ventilation is not required.

5.1.10 **Compatibility of coating systems** is of utmost importance for a good end result. To ensure compatibility of coating systems, using the same coating system as was originally employed is recommended. If this is not possible, the paint manufacturer recommendations have to be followed. When applying touch up, the intact coat next to the damaged area should be feathered for good adhesion.

5.2 Principles for maintenance

Maintenance process:

.1 de-scaling;

.2 fresh water rinsing;

.3 drying;

.4 surface preparation;

.5 anode protection (protection of items should not be coated) as necessary; and

.6 coating.

5.3 Recommended maintenance

Table 2 describes the recommended maintenance to maintain “GOOD” or “FAIR” coating conditions.

Table 2 – Recommended maintenance

Purpose	Preparation	Coating system	Dry Film Thickness (DFT)
Maintenance of affected area • GOOD to GOOD • FAIR to FAIR	• Removal of mud, oil, grease, etc. • Fresh water hosing • Drying • St 3* or equivalent according to manufacturer's recommendation • Check ambient conditions	• Epoxy-based system • The same coating system as was originally employed or according to manufacturer's recommendation	• According to manufacturer's recommendation

6 COATING REPAIRS

6.1 Process considerations for repairs

6.1.1 Major considerations are:

.1 safety;

.2 salt contamination;

.3 rust scale;

.4 pitting corrosion;

.5 temperature;

.6 condensation;

.7 ventilation;

.8 dehumidification;

.9 compatibility of coating systems;

.10 design/surface area; and

.11 cathodic protections.

6.1.2 **Safety**. Refer to the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)). It is an absolute requirement that all of the ship's safety and tank entry procedures and policies are adhered to. When a ship is out of service, in a yard repair, local regulations apply covering safety. The yard is responsible for their implementation.

* Refer to standard: ISO 8501-1:1988/Suppl:1994. Preparation of steel substrate before application of paints and related products – Visual assessment of surface cleanliness.

6.1.3 **Salt contamination** will cause accelerated deterioration of the coating if not removed prior to coating application. A recommended procedure to reduce salt contamination is to remove loose rust scale followed by good fresh water rinsing, at elevated temperatures and high pressure, if possible. Test the salt content after washing and before coating using standard ISO 8502-9 or other equivalent method and re-wash if necessary until the salt level is less than or equal to 80 mg/m^2 of total soluble salts, calculated as sodium chloride or as recommended by the coating manufacturer. This should be the starting point in any surface preparation process in ballast tanks onboard ships. In case of major repair or full recoating, any deviation should be agreed between the parties concerned and noted in the CTF.

6.1.4 **Rust scale** that is not removed prior to coating application will cause early failure. Loose top-scale is easy to remove, however the inner (black) hard scale is much more adherent. When over-coated it will soon detach between the steel and the scale and come off, typically with the coating adhering very well to the outside of it. If the hard scale cannot be removed, the service life expectancy of the treatment is 1 to 2 years regardless of the coating used.

6.1.5 **Pitting corrosion** is a major problem on board ships on plates that have been exposed to seawater for some time. If it has been accepted that the pits need not be welded up in order to prevent further accelerated damage, a coating should be applied. Soluble salts will be present within the pits and it is essential that these are removed otherwise corrosion will soon start inside over-coated pits, affecting the service life. Various methods of salt removal from pits have been proposed, e.g., water-jetting followed by blast cleaning possibly also exposure to high humidity and repeating of water-jetting. Whichever methods are chosen, any residues from the washing processes must be removed otherwise the soluble salt will precipitate out of the water on drying.

6.1.6 When Microbiologically Influenced Corrosion (MIC) is involved the pits are of a much wider nature, typically “shiny” clean inside with sharp edges to unaffected surrounding steel and often with a foul smell, like rotten egg, being evident when breaking up the scale cap. An MIC attack can proceed very deep, very fast.

6.1.7 **Temperature** is a critical parameter to consider. When repairs are carried out in a shipyard, proper temperature control can more readily be achieved in the areas requiring coating.

6.1.8 **Condensation** is always a risk. It is an absolute necessity that the contractors have a good understanding about relative humidity and its relation to substrate temperature and dew point. To paint over a surface that is at or below the dew point, or that will be at or below the dew point while the coating is wet, will not perform. Ideally the temperature should be at least 3°C above the dew point.

6.1.9 **Ventilation** is a vital factor. This is one item that clearly supports both the quality of the application and the safety of the operation. Arrange the ventilation that it extracts from the lowest and furthest corners to ensure the fast and efficient removal of dangerous solvents. The use of solvent free coating systems does not mean that ventilation is not required!

6.1.10 **Dehumidification** is the best insurance for good productivity and performance. There are two different types, i.e. desiccant and refrigeration. Both work well, the desiccant type being ideal in moderate and cold climates, and the refrigeration type in warmer climates. The use of dehumidifiers prevents condensation by lowering the dew point, ensures proper cure of the coating, reduces flash-back rusting, prevents grit blasting from “turning” and assists productivity.

6.1.11 **Compatibility of coating systems** is of utmost importance for a good end result. Unless the original coating system is totally removed, a coating system compatible to the original system should be used in accordance with the paint manufacturer recommendations. The coating system requires a Statement of Compliance or Type Approval Certificate according to the Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers (resolution MSC.215(82)). Demonstration of compatibility should not require separate approval of the combined coating system consisting of the old coating and new coating.

6.1.12 **Stripe coating/design/surface areas** should be differentiated with respect to coating application as degree of access varies. Edges, corners, weld seams and other areas that are difficult to coat need special treatment. "Stripe coating" is used to produce a satisfactory coating and to obtain specified Dry Film Thickness (DFT) on such areas. Stripe coats should be applied as a coherent film showing good film formation and no visible defects, such as pores or de-wetted areas. The application method employed should ensure that all areas which cannot be adequately coated by spray application are properly stripe coated. Stripe coats should be applied by brush or roller. Roller to be used for scallops, ratholes, etc., only.

6.1.13 It is recommended to apply a stripe coat before or after each main coat. This should be done using a colour that contrasts with each main coat, as this makes it easier to see that the stripe coat is satisfactory.

6.1.14 **Cathodic protection** is one commonly used anti-corrosion method in ballast tanks. Since the electric potential of certain anodes may damage the coating in their vicinity, it is recommended that the impact of electric potential on coating be considered in the area where cathodic protection system is applied.

6.2 Principles for repairs

6.2.1 Repair process:

.1 mud out ("slurry up" and pump out all mud);

.2 de-scaling (hand scrape off loose scale – the use of magnesium descaling can be considered);

.3 fresh water rinsing;

.4 drying;

.5 surface preparation (surface preparation method chosen depends on the amount of failure and the service life intended);

.6 anode protection (protection of items should not be coated); and

.7 coating.

6.2.2 It is recommended that the process, specification, coating application parameters, standards and time schedule are discussed and agreed upon by the parties involved and presented to the Administration for review. The Administration may, if it so requires, participate in the agreement process.

6.2.3 It is essential that, if a contractor is providing the service, he can prove that all personnel are fully qualified to carry out the required work. It is also necessary that, whilst on board, the team is fully conversant with appropriate ship operation, safety and evacuation requirements.

6.2.4 It should be realized that more control over the coating process can be achieved in dock and hence the overall cost effectiveness of repair must establish whether the required service life will be achievable.

6.3 Recommended repair

6.3.1 Table 3 describes the recommended medium and long-term repair to restore "GOOD" coating conditions.

6.3.2 Coating repair should be inspected by qualified inspectors certified to NACE Coating Inspector Level 2, FROSIO Inspector Level III or equivalent as verified by the Administration.

Table 3 – Recommended medium and long-term repair

Purpose	Preparation	Coating system		Dry Film Thickness (DFT)
Repair of affected area • POOR to GOOD • FAIR to GOOD	• Removal of mud, oil, grease, etc. • Fresh water hosing • Drying • St 3 or Sa 2½* for FAIR condition • Sa 2½* for POOR condition • Intact coating next to damaged area should be feathered • Total soluble salts, calculated as sodium chloride, according to manufacturer's recommendation, but not more than 80 mg/m^2 • Climatic control	**Medium term** (10-year target life) (Not recommended for ships of less than five years of age)	• Coating system approved according to resolution MSC.215(82) • The same coating system as was originally employed, or a coating system compatible with the original system, or equivalent according to manufacturer's recommendation	• 250 µm DFT** • Minimum two spray coats with two stripe coats
		Long term (More than 10 years' target life)	• Coating system approved according to resolution MSC.215(82)	• 320 µm DFT • Minimum two spray coats with two stripe coats

* Refer to standard: ISO 8501-1:1988/Suppl:1994. Preparation of steel substrate before application of paints and related products – Visual assessment of surface cleanliness.

** Coating used approved at 320 µm DFT, according to resolution MSC.215(82), is satisfactory for medium-term at 250 µm DFT.

Purpose	Preparation	Coating system		Dry Film Thickness (DFT)
			• The same coating system as was originally employed, or a coating system compatible with the original system, or equivalent according to manufacturer's recommendation	

7 COATING TECHNICAL FILE (CTF)

7.1 Maintenance and repair should be carried out in accordance with the procedures and recommendations provided in the Coating Technical File (CTF).

7.2 For maintenance, the CTF should contain at least the following:

.1 copy of Technical Data Sheet, including:

.1.1 product name and identification mark and/or number;
.1.2 materials, components and composition of the coating system, colours;
.1.3 minimum and maximum dry film thickness;
.1.4 application methods, tools and/or machines;
.1.5 condition of surface to be coated (de-rusting grade, cleanness, profile, etc.); and
.1.6 environmental limitations (temperature and humidity); and

.2 ship maintenance records of coating application, including:

.2.1 applied actual space and area (in square metres) of each compartment;
.2.2 ambient condition during coating; and
.2.3 method of surface preparation.

7.3 For repairs, the CTF should contain at least the following:

.1 copy of Statement of Compliance or Type Approval Certificate;

.2 copy of Technical Data Sheet, including:

.2.1 product name and identification mark and/or number;
.2.2 materials, components and composition of the coating system, colours;
.2.3 minimum and maximum dry film thickness;
.2.4 application methods, tools and/or machines;
.2.5 condition of surface to be coated (de-rusting grade, cleanness, profile, etc.); and
.2.6 environmental limitations (temperature and humidity);

.3 shipyard work records of coating application, including:

.3.1 applied actual space and area (in square metres) of each compartment;
.3.2 applied coating system;
.3.3 time of coating, thickness, number of layers, etc.;
.3.4 ambient condition during coating; and
.3.5 method of surface preparation;

.4 coating log issued by the coating inspector, stating that the coating was applied in accordance with the specifications to the satisfaction of the coating supplier representative and specifying deviations from the specifications (example of daily log and non-conformity report (see annex 2 to resolution MSC.215(82));

.5 shipyard's verified inspection report, including:

.5.1 completion date of inspection;
.5.2 result of inspection;
.5.3 remarks (if given); and
.5.4 inspector signature; and

.6 procedures for in-service maintenance and repair of coating system if different than original coating system.

8 REFERENCE

IACS Recommendation 87 – Guidelines for Coating Maintenance and Repairs for Ballast Tanks and Combined Cargo/Ballast Tanks on Oil Tankers, revision 1, 2006.

Note:

1 The above reference is for information purposes only. Although IACS Recommendation 87 has been specifically developed for oil tankers, it contains information that may be useful for other ship types.

2 IACS Recommendation 87 is available to download from the website: www.iacs.org.uk.

***

ANNEX 15

DRAFT NEW SOLAS REGULATION ON CORROSION PROTECTION OF CARGO OIL TANKS OF CRUDE OIL TANKERS

CHAPTER II-1
CONSTRUCTION – STRUCTURE, SUBDIVISION AND STABILITY, MACHINERY AND ELECTRICAL INSTALLATIONS

Part A-1
Structure of ships

Regulation 3-[…] – Corrosion protection of cargo oil tanks of crude oil tankers

1 Paragraph 3 of this regulation shall apply to crude oil tankers of 5,000 tonnes deadweight and above:

.1 for which the building contract is placed on or after [*date of entry into force*]; or

.2 in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after [*date of entry into force*]; or

.3 the delivery of which is on or after [*date of entry into force*].

2 Paragr aph 3 of this regulation shall not apply to combination carriers as defined in regulation 1 of Annex I of MARPOL 73/78 or chemical tankers as defined in regulation 1 of Annex II of MARPOL 73/78. For the purpose of this regulation, chemical tankers also include chemical tankers certified to carry oil.

3 All cargo oil tanks of crude oil tankers shall be:

.1 coated during the construction of the ship in accordance with the Performance standard for protective coatings for cargo oil tanks of crude oil tankers, adopted by the Maritime Safety Committee 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; or

.2 protected by alternative means of corrosion protection or utilization of corrosion resistance material to maintain required structural integrity for 25 years in accordance with the Performance standard for alternative means of corrosion protection for cargo oil tanks of crude oil tankers adopted by the Maritime Safety Committee 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.

4 The Administration may exempt a crude oil tanker from the requirements of paragraph 3 of this regulation to allow the use of novel prototype alternatives to the coating system specified in paragraph 3.1, for testing, provided they are subject to suitable controls, regular assessment and acknowledgement of the need for immediate remedial action if the system fails or is shown to be failing. Such exemption shall be recorded on an exemption certificate.

5 The Administration may exempt a crude oil tanker from the requirements of paragraph 3 of this regulation if the ship is built to be engaged solely in the carriage of cargoes and cargo handling operations not causing corrosion*. Such exemption and conditions for which it is granted shall be recorded on an exemption certificate.

***

* Guidelines to be developed by the Organization.

ANNEX 16

DRAFT MSC CIRCULAR

UNIFIED INTERPRETATION OF SOLAS REGULATION II-1/27.5

1 The Maritime Safety Committee, at its [eighty-seventh session (…)], with a view to ensuring a uniform approach towards the application of SOLAS regulation II-1/27.5 concerning machinery shut-off arrangements and oil mist detector (OMD) arrangements and, following the recommendation made by the Sub-Committee on Ship Design and Equipment at its fifty-second session, approved a unified interpretation of SOLAS regulation II-1/27.5, as follows:

> "The OMD arrangements (or engine bearing temperature monitors or equivalent devices) are part of the automatic shut-off arrangements required by SOLAS regulation II-1/27.5, in the case of medium and high speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore.
>
> For the case of low speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore, the OMD arrangements (or engine bearing temperature monitors or equivalent devices) should initiate the alarm and slow down procedures.
>
> The consequences of overriding automatic shut-off arrangements should be established and documented."

2 Member Governments are invited to use the above interpretation when applying the relevant provisions of SOLAS chapter II-1 and to bring it to the attention of all parties concerned.

***

ANNEX 17

DRAFT REVISED WORK PROGRAMME OF THE SUB-COMMITTEE AND PROVISIONAL AGENDA FOR DE 53

DRAFT REVISED WORK PROGRAMME OF THE SUB-COMMITTEE*

		Target completion date/number of sessions needed for completion	Reference
1	Casualty analysis (coordinated by FSI) *Strategic direction: 12.1* *High-level action: 12.1.2* *Planned output: 12.1.2.1 to .2*	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; DE 50/27, section 17
2	**Consideration of IACS unified interpretations** *Strategic direction: 1.1* *High-level action: 1.1.2* *Planned output: 1.1.2.1*	Continuous	MSC 78/26, paragraph 22.12; ~~DE 51/28, section 22;~~ DE 52/21, section 17
H.1	Amendments to resolution A.744(18) *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: 5.2.1.1*	~~2009~~ 2010**	DE 45/27, paragraphs 7.18 and 7.19; DE 51/28, section 3; DE 52/21, section 3
H.2	**Measures to prevent accidents with lifeboats** (in cooperation with FSI, NAV and STW) *Strategic direction: 5.1* *High-level action: 5.1.2* *Planned output: 5.1.2.1*	2010	MSC 74/24, paragraph 21.34; DE 51/28, section 8; DE 52/21, section 6
H.3	**Compatibility of life-saving appliances** *Strategic direction: 5.1* *High-level action: 5.1.2* *Planned output: 5.1.2.2*	~~2009~~ 2010	DE 47/15, paragraph 5.3; MSC 78/26, paragraph 24.37.1; DE 51/28, section 9; DE 52/21, section 7

* **Notes:** 1 "H" means a high priority item and "L" means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.
2 Struck-out text indicates proposed deletion and shaded text proposed additions or changes.
3 Items printed in bold letters have been selected for the provisional agenda for DE 53.

** To be included in the provisional agenda for DE 54.

		Target completion date/number of sessions needed for completion	**Reference**
H.4 ~~H.3~~	Development of provisions for gas-fuelled ships (coordinated by BLG) *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: 5.2.1.1*	2 sessions	MSC 78/26, paragraph 24.39; DE 51/28, section 4
~~H.5~~	~~**Test standards for extended service intervals of inflatable liferafts**~~ ~~*Strategic direction: 5.1*~~ ~~*High-level action: 5.1.2*~~ ~~*Planned output: 5.1.2.3*~~	~~2009~~	~~MSC 78/26, paragraph 24.41; DE 51/28, section 10~~
~~H.6~~	~~**Amendments to the Guidelines for ships operating in Arctic ice-covered waters** (in cooperation with SLF, as necessary)~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.1*~~ ~~*Planned output: 5.2.1.2*~~	~~2010~~	~~MSC 79/23, paragraph 8.25; DE 51/28, section 11~~
~~H.7~~	~~**Revision of the Code on Alarms and Indicators** (in cooperation with appropriate sub-committees, as necessary)~~ ~~*Strategic direction: 2*~~ ~~*High-level action: 2.1.1*~~ ~~*Planned output: 2.1.1.2*~~	~~2009~~	~~MSC 79/23, paragraph 20.28; DE 51/28, section 6~~
~~H.8~~	~~**Amendments to the MODU Code**~~ ~~*Strategic direction: 2*~~ ~~*High-level action: 2.1.1*~~ ~~*Planned output: 2.1.1.2*~~	~~2009~~	~~MSC 79/23, paragraph 22.51; DE 51/28, section 7~~
~~H.9~~	~~**Guidelines for uniform operating limitations of high-speed craft** (in cooperation with COMSAR, NAV and SLF)~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.1*~~ ~~*Planned output: 5.2.1.2*~~	~~2009~~	~~MSC 81/25, paragraph 23.45; DE 51/28, section 13~~
~~H.10~~	~~**Guidelines for maintenance and repair of protective coatings**~~ ~~*Strategic direction: 2*~~ ~~*High-level action: 2.1.1*~~ ~~*Planned output: 2.1.1.2*~~	~~2009~~	~~MSC 81/25, paragraph 23.48.1; DE 51/28, section 14~~

		Target completion date/number of sessions needed for completion	Reference
~~H.11~~ H.5	**Performance standards for recovery systems** *Strategic direction: 5.1* *High-level action: 5.1.1* *Planned output: 5.1.1.1*	2010	MSC 81/25, paragraph 23.49.1; DE 51/28, section 16; DE 52/21, section 13
~~H.12~~ H.6	**Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation** *Strategic direction: 2* *High-level action: 2.1.1* *Planned output: 2.1.1.2*	~~2009~~ 2010	SLF 49/17, paragraph 3.11; MSC 82/24, paragraph 21.47; DE 51/28, section 26; DE 52/21, section 15
~~H.13~~ H.7	**Development of a new framework of requirements for life-saving appliances** (in cooperation with FP and COMSAR, as necessary) *Strategic direction: 5.2* *High-level action: 5.1.2* *Planned output: -*	2012	MSC 82/24, paragraph 21.49; DE 52/21, section 16
~~H.14~~	~~**Improved safety of pilot transfer arrangements** (coordinated by NAV)~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.4*~~ ~~*Planned output: 5.2.4.2*~~	~~2 sessions~~	~~MSC 82/24, paragraph 21.50~~
~~H.15~~ H.8	**Cargo oil tank coating and corrosion protection** *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: -*	~~2009~~ 2010	MSC 82/24, paragraphs 21.51 and 23.12; DE 51/28, section 14; DE 52/21, section 14
~~H.16~~ H.9	Development of safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: -*	3 sessions	MSC 82/24, paragraphs 3.92 and 21.52
~~H.17~~ H.10	**Protection against noise on board ships** *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: -*	~~2 sessions~~ 2010	MSC 83/28, paragraph 25.41

		Target completion date/number of sessions needed for completion	Reference
~~H.18~~ H.11	**Thermal performance of immersion suits** *Strategic direction: 5.1* *High-level action: 5.1.2* *Planned output: -*	~~2 sessions~~ 2010	MSC 84/24, paragraph 22.48
~~H.19~~ H.12	**Amendments to the Revised recommendation on testing of life-saving appliances** *Strategic direction: 5.1* *High-level action: 5.1.2* *Planned output: -*	~~2 sessions~~ 2010	MSC 84/24, paragraph 22.49
~~H.20~~ H.13	**Safety provisions applicable to tenders operating from passenger ships** (in cooperation with FP, COMSAR, NAV, SLF and STW) *Strategic direction: 5.2* *High-level action: 5.1.1* *Planned output: -*	~~3 sessions~~ 2011	MSC 84/24, paragraph 22.50
~~H.21~~ H.14	**Alternative arrangements for the bottom inspection requirements for passenger ships other than ro-ro passenger ships** *Strategic direction: 5.2* *High-level action: 5.1.1* *Planned output: -*	~~1 session~~ 2010	MSC 84/24, paragraph 22.52; DE 52/21, section 20
~~H.22~~ H.15	**Classification of offshore industry vessels and consideration of the need for a code for offshore construction support vessels** *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: -*	~~2 sessions~~ 2010	MSC 85/26, paragraph 23.27; DE 52/21, section 20
~~H.23~~ H.16	**Interpretation on application of SOLAS, MARPOL and Load Line requirements for major conversions of oil tankers** *Strategic direction: 2* *High-level action: 2.1.1* *Planned output: 2.1.1.2/2.1.1.4*	~~2 sessions~~ 2010	MSC 85/26, paragraph 23.28

		Target completion date/number of sessions needed for completion	Reference
H.17	Development of a Code for ships operating in polar waters *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: -*	3 sessions	DE 52/21, paragraph 9.31
L.1	**Revision of resolution A.760(18)** *Strategic direction: 5.2* *High-level action: 5.2.1* *Planned output: 5.2.1.2*	2010	DE 46/32, paragraph 31.23; DE 51/28, section 12
L.2	Free-fall lifeboats with float-free capabilities *Strategic direction: 5.1* *High-level action: 5.1.2* *Planned output: -*	1 session	MSC 76/23, paragraphs 20.41.3 and 20.48; DE 47/25, paragraph 19.2
L.3	Guidelines on equivalent methods to reduce onboard NO_x emissions *Strategic direction: 7* *High-level action: 7.3.1* *Planned output: -*	2 sessions	MEPC 41/20, paragraph 8.22.1; BLG 10/19, paragraph 12.3; MEPC 55/23, paragraph 19.9
L.4	Performance standards for protective coatings *Strategic direction: 2* *High-level action: 2.1.1* *Planned output: 2.1.1.2*	2 sessions	MSC 76/23, paragraphs 20.41.2 and 20.48; DE 50/27, section 4
	.1 Mandatory application of the Performance standard for protective coatings for void spaces on bulk carriers and oil tankers	2 sessions	
	.2 Performance standard for protective coatings for void spaces on all types of ships	2 sessions	
L.5	Revision of the provisions for helicopter facilities in SOLAS and the MODU Code *Strategic direction: 2* *High-level action: 2.1.1* *Planned output: -*	2 sessions	DE 52/21, paragraph 9.31

DRAFT PROVISIONAL AGENDA FOR DE 53*

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Measures to prevent accidents with lifeboats

4 Compatibility of life-saving appliances

5 Revision of resolution A.760(18)

6 Performance standards for recovery systems

7 Cargo oil tank coating and corrosion protection

8 Development of a new framework of requirements for life-saving appliances

9 Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation

10 Protection against noise on board ships

11 Thermal performance of immersion suits

12 Alternative arrangements for the bottom inspection requirements for passenger ships other than ro-ro passenger ships

13 Amendments to the Revised recommendation on testing of life-saving appliances

14 Safety provisions applicable to tenders operating from passenger ships

15 Classification of offshore industry vessels and consideration of the need for a code for offshore construction support vessels

16 Interpretation on application of SOLAS, MARPOL and Load Line requirements for major conversions of oil tankers

* Agenda item numbers do not indicate priorities.

17 Consideration of IACS unified interpretations

18 Work programme and agenda for DE 54

19 Any other business

20 Report to the Maritime Safety Committee

***

ANNEX 18

STATUS OF THE PLANNED OUTPUTS OF THE HIGH-LEVEL ACTION PLAN OF THE ORGANIZATION AND PRIORITIES FOR THE 2008-2009 BIENNIUM RELATING TO THE SUB-COMMITTEE'S WORK

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
ENHANCING THE STATUS AND EFFECTIVENESS OF IMO							
1	IMO is the primary international forum for technical matters of all kinds affecting international shipping and legal matters related thereto. An inclusive and comprehensive approach to such matters will be a hallmark of IMO. In order to maintain that primacy, it will:	1.1	Further develop its role in maritime affairs *vis-à-vis* other intergovernmental organizations, so as to be able to deal effectively and comprehensively with complex cross-agency issues	1.1.2	Cooperate with the United Nations and other international bodies on matters of mutual interest	1.1.2.1	Cooperation with: - IACS: consideration of unified interpretations **Status: on-going** **Continuous item on the agenda**
		1.3	Actively seek to reap synergies and avoid duplication of efforts made by other UN agencies in shipping matters	1.3.5	Harmonize IMO instruments with other relevant international instruments, as necessary	1.3.5.4	Amendments to the MODU Code with regard to changes to the ICAO Convention (MSC) (see Outputs 2.1.1.2 (safety topics) and 5.2.1.2) **Status: completed at DE 52** **Draft Assembly resolution submitted to MSC 86**
2	IMO will foster global compliance with its instruments governing international shipping and will promote their uniform implementation by Member States			2.1.1	Monitor and improve conventions, etc., and provide interpretation thereof if requested by Member States	2.1.1.1	New or amended mandatory IMO instruments: Environmental topics (MEPC): - Amendments to MARPOL Annexes I to VI, including revised MARPOL Annexes V and VI (see Output 7.3.1.1) **Status: completed at DE 51** **Amendments approved at MEPC 58**

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
						2.1.1.2	New or amended non-mandatory IMO instruments: Safety and security topics (MSC): - Guidance to ensure a consistent policy for watertight doors to remain open during navigation **Status: on-going** **Draft MSC circular under development** - Guidelines for corrosion protection of means of access arrangements (see Output 5.2.1.2) **Status: completed at DE 51** **MSC 84 approved MSC.1/Circ.1279** - Guidelines for maintenance and repair of protective coatings (see Output 5.2.1.2) **Status: completed at DE 52** **Draft MSC circular submitted to MSC 86** - Interpretation of the definition of the term "bulk carrier" **Status: completed at MSC 85** **MSC 85 adopted resolution MSC.277(85)** - Performance standards for protective coatings for void spaces (see Output 5.2.1.2) **Status: completed at DE 50** **MSC 83 adopted resolution MSC.244(83)** - Revised Code on Alarms and Indicators **Status: completed at DE 52** **Draft Assembly resolution submitted to MSC 86** - Revised MODU Code (see Outputs 1.3.5.4 and 5.2.1.2) **Status: completed at DE 52** **Draft Assembly resolution submitted to MSC 86** - Revised SPS Code (see Output 5.2.1.2) **Status: completed at DE 51** **MSC 84 adopted resolution MSC.266(84)**
DEVELOPING AND MAINTAINING A COMPREHENSIVE FRAMEWORK FOR SAFE, SECURE, EFFICIENT AND ENVIRONMENTALLY SOUND SHIPPING							
5	IMO's highest priority will be the safety of human life at sea. In particular, greater emphasis will be accorded to:	5.1	Ensuring that all systems related to enhancing the safety of human life at sea are adequate, including those concerned with large concentrations of people	5.1.1	Review adequacy of passenger ship safety provisions	5.1.1.1	New or amended mandatory IMO instruments (MSC): - Performance standards for recovery systems for all types of ship **Status: on-going** **Correspondence group established at DE 52 to progress work**
						5.1.1.2	New or amended non-mandatory IMO instruments (MSC): - Guidelines for the approval of novel life-saving appliances **Status: completed at DE 51** **DE 51 agreed that work is covered by agenda item on development of new framework for LSA**
				5.1.2	Development and review of safe evacuation, survival, recovery and treatment of people following maritime casualties or in case of distress	5.1.2.1	Measures to prevent accidents with lifeboats (MSC) **Status: on-going** **Amendments to LSA Code and Recommendation on testing of LSA developed, further amendments under preparation** **MSC 84 approved MSC.1/Circ.1277**

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
						5.1.2.2	Guidance on compatibility of life-saving appliances (MSC) **Status: on-going** **MSC 84 approved MSC.1/Circ.1278,** **Amendments to LSA Code and Recommendation on testing of LSA completed** **MSC circular to clarify application of weight criteria under development**
						5.1.2.3	Test standards for extended service intervals for inflatable liferafts (MSC) **Status: completed at DE 52** **Draft MSC circular developed for approval by MSC 86**
		5.2	Enhancing technical, operational and safety management standards	5.2.1	Keep under review the technical and operational safety aspects of all types of ships, including fishing vessels	5.2.1.1	New or amended mandatory IMO instruments (MSC): - Amendments to resolution A.744(18) (see Output 5.3.1.1) **Status: on-going** **Correspondence group established at DE 52 to progress work** - Amendments to SOLAS related to asbestos **Status: completed at DE 51** **SOLAS amendments approved at MSC 85** - Interim guidelines for gas-fuelled engine installations in ships **Status: completed** **Draft guidelines completed by BLG 13 for submission to MSC 86** - Cargo oil tank coating and corrosion protection **Status: on-going** **SOLAS amendments and performance standard under preparation**

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
						5.2.1.2	New or amended non-mandatory IMO instruments (MSC): - Amendments to the Guidelines for ships operating in Arctic ice-covered waters **Status: completed at DE 52** **Draft Assembly resolution submitted to MSC 86** - Amendments to the MODU Code (see Outputs 1.3.5.4 and 2.1.1.2 (safety and security topics)) **Status: completed at DE 52** **Draft Assembly resolution submitted to MSC 86** - Guidelines for corrosion protection of means of access arrangements (see Output 2.1.1.2 (safety and security topics)) **Status: completed at DE 51** **MSC 84 approved MSC.1/Circ.1279** - Guidelines for maintenance and repair of protective coatings (see Output 2.1.1.2 (safety and security topics)) **Status: completed at DE 52** **Draft MSC circular submitted to MSC 86** - Guidelines for uniform operating limitations of high-speed craft **Status: completed at DE 52** **Draft MSC circular submitted to MSC 86** - Performance standards for protective coatings for void spaces (see Output 2.1.1.2 (safety and security topics)) **Status: completed at DE 50** **MSC 83 adopted resolution MSC.244(83)** - Revised SPS Code (see Output 2.1.1.2 (safety and security topics)) **Status: completed at DE 51** **MSC 84 adopted resolution MSC.266(84)** - Revision of resolution A.760(18) **Status: on-going** **Input form ISO expected for DE 53**
		5.3	Eliminating shipping that fails to meet and maintain these standards on a continuous basis	5.3.1	Keep under review flag and port State procedures for the control of ships	5.3.1.1	Amendments to the Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers (resolution A.744(18)) (MSC) (see Output 5.2.1.1) **Status: on-going** **Correspondence group established at DE 52 to progress work**

***

ANNEX 19

DRAFT MSC CIRCULAR

GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION

1 The Maritime Safety Committee, at its [eighty-sixth session (27 May to 5 June 2009)], with a view to providing specific guidance on the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation such as accommodation ladders and gangways required under regulation II-1/3-9 of the 1974 SOLAS Convention, approved the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation, prepared by the Sub-Committee on Ship Design and Equipment at its fifty-second session, as set out in the annex.

2 Member Governments are invited to bring the attached Guidelines to the attention of shipowners, shipbuilders, designers, manufacturers, port State control authorities and other parties concerned in conjunction with SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships).

ANNEX

GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION

1 APPLICATION

This document is intended to provide Guidelines for the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation required under regulation II-1/3-9 of the 1974 SOLAS Convention, adopted by resolution MSC.256(84). Where means of embarkation and disembarkation other than those specifically covered by these Guidelines are fitted, an equivalent level of safety should be provided.

2 CONSTRUCTION

2.1 Accommodation ladders and gangways for means of embarkation and disembarkation which are provided on board ships constructed on or after 1 January 2010should meet applicable international standards such as ISO 5488:1979, *Shipbuilding – accommodation ladders*, ISO 7061:1993, *Shipbuilding – aluminium shore gangways for seagoing vessels* and/or national standards and/or other requirements recognized by the Administration. Such accommodation ladders and gangways fitted on ships constructed before 1 January 2010 which are replaced after that date should, in so far as is reasonable and practicable, comply with these Guidelines.

2.2 The structure of the accommodation ladders and gangways and their fittings and attachments should be such as to allow regular inspection, maintenance of all parts and, if necessary, lubrication of their pivot pin. Special care should be taken to ensure that the welding connection works are properly performed.

2.3 The construction and test of accommodation ladder winches should be in accordance with applicable international standards such as ISO 7364:1983 *Shipbuilding and marine structures – deck machinery – accommodation ladder winches*.

3 INSTALLATION

3.1 Location

As far as practicable, the means of embarkation and disembarkation should be sited clear of the working area and should not be placed where cargo or other suspended loads may pass overhead.

3.2 Lighting

Adequate lighting should be provided to illuminate the means of embarkation and disembarkation, the position on deck where persons embark or disembark and the controls of the arrangement.

3.3 Lifebuoy

A lifebuoy equipped with a self-igniting light and a buoyant lifeline should be available for immediate use in the vicinity of the embarkation and disembarkation arrangement when in use. This paragraph does not intend to prescribe additional lifebuoys other than those required under SOLAS chapter III.

3.4 Arrangement

3.4.1 Each accommodation ladder should be of such a length to ensure that, at a maximum design operating angle of inclination, the lowest platform will be not more than 600 mm above the waterline in the lightest seagoing condition, as defined in SOLAS regulation III/3.13.

3.4.2 The arrangement at the head of the accommodation ladder should provide direct access between the ladder and the ship's deck by a platform securely guarded by handrails and adequate handholds. The ladder should be securely attached to the ship to prevent overturning.

3.4.3 For ships on which the height of the embarkation/disembarkation deck exceeds 20 m above the waterline specified in paragraph 3.4.1 and on other ships for which the Administration considers compliance with the provisions of paragraph 3.4.1 impractical, an alternative means of providing safe access to the ship or supplementary means of safe access to the bottom platform of the accommodation ladder may be accepted.

3.5 Marking

3.5.1 Each accommodation ladder or gangway should be clearly marked at each end with a plate showing the restrictions on the safe operation and loading, including the maximum and minimum permitted design angles of inclination, design load, maximum load on bottom end plate, etc. Where the maximum operational load is less than the design load, it should also be shown on the marking plate.

3.6 Test

3.6.1 After installation, the winch and the accommodation ladder should be operationally tested to confirm proper operation and condition of the winch and the ladder after the test.

3.6.2 The winch should be tested as a part of the complete accommodation ladder unit through a minimum of two times hoisting and lowering of the accommodation ladder in accordance with the onboard test requirement specified in applicable international standards such as ISO 7364:1983.

3.6.3 Every new accommodation ladder should be subjected to a static load test of the specified maximum working load upon installation.

3.7 Positioning

3.7.1 Gangways should not be used at an angle of inclination greater than 30° from the horizontal and accommodation ladders should not be used at an angle greater than 55° from the horizontal, unless designed and constructed for use at angles greater than these and marked as such, as required by paragraph 3.5.1.

3.7.2 Gangways should never be secured to a ship's guardrails unless they have been designed for that purpose. If positioned through an open section of bulwark or railings, any remaining gaps should be adequately fenced.

3.7.3 Adequate lighting for means of embarkation and disembarkation and the immediate approaches should be ensured from the ship and/or the shore in hours of darkness.

3.8 Rigging (safety net)

A safety net should be mounted in way of the accommodation ladders and gangways where it is possible that a person may fall from the means of embarkation and disembarkation or between the ship and quayside.

3.9 Verification

Upon installation, the compliance of the entire arrangement with these Guidelines should be verified.

4 MAINTENANCE

4.1 Accommodation ladders and gangways, including associate winch and fittings, should be properly maintained and inspected at appropriate intervals as required by SOLAS regulation III/20.7.2, in accordance with manufacturers' instructions. Additional checks should be made each time the accommodation ladder and gangway is rigged, looking out for signs of distortion, cracks and corrosion. Close examination for possible corrosion should be carried out, especially when an aluminium accommodation ladder/gangway has fittings made of mild steel.

4.2 Bent stanchions should be replaced or repaired and guard ropes should be inspected for wear and renewed where necessary.

4.3 Moving parts should be free to turn and should be greased as appropriate.

4.4 The lifting equipment should be inspected, tested and maintained paying careful attention to the condition of the hoist wire. The wires used to support the means of embarkation and disembarkation should be renewed when necessary, as required by SOLAS regulation II-1/3-9.

4.5 Arrangements should also be made to examine the underside of gangways and accommodation ladders at regular intervals.

4.6 All inspections, maintenance work and repairs of accommodation ladders and gangways should be recorded in order to provide an accurate history for each appliance. The information to be recorded appropriately on board should include the date of the most recent inspection, the name of the person or body who carried out that inspection, the due date for the next inspection and the dates of renewal of wires used to support the embarkation and disembarkation arrangement.

5 EXAMINATION AND OPERATIONAL TEST DURING SURVEYS REQUIRED BY SOLAS REGULATIONS I/7 AND I/8

5.1 Accommodation ladders/gangways and davits

5.1.1 Accommodation ladder

5.1.1.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the accommodation ladder:

.1 steps;

.2 platforms;

.3 all support points such as pivots, rollers, etc.;

.4 all suspension points such as lugs, brackets, etc.;

.5 stanchions, rigid handrails, hand ropes and turntables;

.6 davit structure, wire and sheaves, etc.; and

.7 any other relevant provisions stated in these Guidelines.

5.1.1.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.1.1, the accommodation ladder should be operationally tested with the specified maximum operational load of the ladder.

5.1.2 Gangway

5.1.2.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the gangway:

.1 treads;

.2 side stringers, cross-members, decking, deck plates, etc.;

.3 all support points such as wheel, roller, etc.;

.4 stanchions, rigid handrails, hand ropes; and

.5 any other relevant provisions stated in these Guidelines.

5.1.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.2.1, the gangway should be operationally tested with the specified maximum operational load of the gangway.

5.2 Winch

5.2.1 During annual surveys required by SOLAS regulations I/7 and I/8, the following items should be examined for satisfactory condition:

.1 brake mechanism including condition of brake pads and band brake, if fitted;

.2 remote control system; and

.3 power supply system (motor).

5.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.2.1, the winch should be operationally tested with the specified maximum operational load of the accommodation ladder.

5.3 Tests

5.3.1 The tests specified in sections 5.1 and 5.2 are for the purpose of confirming the proper operation of the accommodation ladder, gangway and/or winch, as appropriate.

5.3.2 The load used for the test should be:

.1 the design load; or

.2 the maximum operational load, if this is less than the design load and marked as per paragraph 3.5.1; or

.3 the load nominated by the shipowner or operator only in those cases where the design load or maximum operational load is not known (e.g., for accommodation ladders or gangways which are provided on board ships constructed prior to 1 January 2010), in which case that nominated load should be used as the maximum operational load for all purposes within these Guidelines.

5.3.3 The tests should be carried out with the load applied as uniformly as possible along the length of the accommodation ladder or gangway, at an angle of inclination corresponding to the maximum bending moment on the accommodation ladder or gangway.

5.3.4 Following satisfactory completion of the applicable test(s) without permanent deformation or damage to the tested item, the load used for that test should be marked as the maximum operational load in accordance with paragraph 3.5.1.

5.4 Fittings and davits

During annual surveys required by SOLAS regulations I/7 and I/8, all fittings and davits on the ship's deck associated with accommodation ladders and gangways should be examined for satisfactory condition.

5.5 Means of access to deck

During annual surveys required by SOLAS regulations I/7 and I/8, the fittings or structures for means of access to decks such as handholds in a gateway or bulwark ladder and stanchions should be examined for satisfactory condition.

***

ANNEX 20

DRAFT MSC CIRCULAR

UNIFIED INTERPRETATION OF THE 2000 HSC CODE

1 The Maritime Safety Committee, at its [eighty-seventh session (…)], with a view to ensuring a uniform approach towards the application of the amendments to the 2000 HSC Code adopted by resolution MSC.222(82) and following the recommendations made by the Sub-Committee on Ship Design and Equipment at its fifty-second session, approved a unified interpretation of the 2000 HSC Code as follows:

> "The amendments set out in the annex to resolution MSC.222(82) apply to high-speed craft constructed on or after 1 July 2008.
>
> However, the amendments concerning paragraphs 1.2.2 (asbestos), 1.8.1 (certificates), 1.9.1.1 (transit voyages without Permit to Operate), 2.7.2 (measurement of lightship where inclining experiment is impractical), 13.8.2 (carriage of ECDIS) and 14.15.10 (testing and maintenance of satellite EPIRBs) apply to high-speed craft constructed on or after 1 July 2008 and to high-speed craft constructed on or after 1 July 2002 but prior to 1 July 2008."

2 Member Governments are invited to use the above interpretation when applying the relevant requirements of the 2000 HSC Code and to bring it to the attention of all parties concerned.