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Agenda item 15

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**DRAFT REPORT TO THE MARITIME SAFETY COMMITTEE AND
THE MARINE ENVIRONMENT PROTECTION COMMITTEE**

1 GENERAL

Introduction

1.1 The Sub-Committee on Carriage of Cargoes and Containers (CCC) held its second session from 14 to 18 September 2015 under the chairmanship of Mr. H. Xie (China). The Vice-Chairman, Mr. P. Van Lancker (Belgium), was also present.

1.2 The session was attended by delegations from Member Governments and Associate Members of IMO; by representatives from United Nations and specialized agencies; and by observers from intergovernmental organizations and non-governmental organizations in consultative status, as listed in document CCC 2/INF.1.

Secretary-General's opening address

1.3 The Assistant Secretary-General/Director, Maritime Safety Division, Mr. A. Winbow, on behalf of the Secretary-General, welcomed participants and delivered the opening address. The full text of the opening address can be downloaded from the IMO website at the following address: <http://www.imo.org/MediaCentre/SecretaryGeneral/Secretary-GeneralsSpeechesToMeetings>

Chairman's remarks

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

Adoption of the agenda and related matters

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

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the outcomes of MEPC 67, MSC 94, C 113, SDC 2, HTW 2, SSE 2, MEPC 68, MSC 95 and C 114 relevant to the work of the Sub-Committee, as reported in documents CCC 2/2, CCC 2/2/1 and CCC 2/2/2 (Secretariat), and took them into account in its deliberations when dealing with relevant agenda items.

2.2 In this connection, the Sub-Committee also noted that MSC 94 had approved the *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500) and had instructed its subsidiary bodies to start using the guidance with immediate effect.

3 AMENDMENTS TO THE IGF CODE AND DEVELOPMENT OF GUIDELINES FOR LOW-FLASHPOINT FUELS

Background

3.1 The Sub-Committee recalled that CCC 1 established a Correspondence Group on Amendments to the IGF Code and development of guidelines for low-flashpoint fuels with the terms of reference, set out in paragraph 4.53 of document CCC 1/13.

3.2 The Sub-Committee also recalled that MSC 94 and MEPC 68 approved the renaming of the output regarding the IGF Code to "Amendments to the IGF Code and development of guidelines for low-flashpoint fuels", with a target completion year of 2016, subject to the adoption of the IGF Code at MSC 95.

3.3 Having further recalled that MSC 95 adopted the IGF Code, the associated amendments to SOLAS and its Protocols, and the related amendments to the STCW Convention and Code, with an entry-into-force date of 1 January 2017, the Sub-Committee noted the following decisions made at MSC 94 and MSC 95 regarding the IGF Code and the associated SOLAS amendments:

- .1 the IGF Code will not apply to ships subject to the IGC Code for gaseous fuels;

- .2 the limitations and permissions for existing cargo ships with regard to oil were maintained under SOLAS regulation II-2/4, and a reference to the application of the IGF Code for the use of low-flashpoint oils as fuel was included in SOLAS regulation II-2/4;
- .3 a new paragraph was added in chapter 4 of the IGF Code stipulating that, for natural gas fuel, a risk assessment is only required if expressly stated in the relevant paragraphs of the Code; and
- .4 parts B and C of the Code were renamed to parts B-1 and C-1 to indicate that they were applicable to natural gas-fuelled ships only. The training requirements, which are general and apply to ships using any type of low-flashpoint fuel, were extracted into a separate part D.

3.4 On the subject of the review of flashpoint requirements for oil fuel in SOLAS, the Sub-Committee noted that MSC 94 included, in the 2014-2015 biennial agenda of the SSE Sub-Committee and the provisional agenda of SSE 2, a new unplanned output on "Review of flashpoint requirements for oil fuel in SOLAS chapter II-2", having recognized that the concerns expressed by some delegations needed to be addressed.

3.5 In this regard, the Sub-Committee also noted that MSC 95, having considered the outcome of SSE 2, endorsed the view of the SSE Sub-Committee that the output on "Review of flashpoint requirements for oil fuel in SOLAS chapter II-2" was within the scope of the IGF Code and invited Member Governments and international organizations to submit comments and proposals to CCC 2.

Report of the correspondence group

3.6 The Sub-Committee had for its consideration document CCC 2/3/1 (Sweden), providing the report of the IGF Code correspondence group with regard to the development of guidelines for ships using ethyl or methyl alcohol as fuel and the development of measures for fuel cells and low-flashpoint diesel oil for inclusion in the IGF Code, as and when appropriate.

3.7 In considering the report of the correspondence group, the Sub-Committee noted the following general views expressed on this matter:

- .1 based on discussions at CCC 1, MSC 94, SSE 2 and MSC 95, the intention underpinning the development of specific requirements for low-flashpoint oil fuels was to allow the use of oil fuels with a flashpoint between 52°C and 60°C, subject to additional requirements;

- .2 it would not be appropriate for the use of oil fuels with a flashpoint between 52°C and 60°C (tier 1), as presented in annex 2 to document CCC 2/3/1, to be permitted based merely on the functional requirements in part A of the IGF Code being satisfied, since the functional requirements of the Code were never intended to be used in the absence of prescriptive requirements;
- .3 the consequence of the spillage or leak of low-flashpoint fuel in an engine-room, in cases where it is assumed that the ambient temperature is higher than the flashpoint of the fuel, represents an added risk that, among others, needs to be taken into account during the development of amendments to the IGF Code for the use of low-flashpoint oil fuels;
- .4 the correspondence group should not have considered the outcome of SSE 2 nor any proposals related to low-flashpoint oil fuels, given that MSC 95 invited Member Governments and international organizations to submit comments and proposals to CCC 2, not the correspondence group;
- .5 based on the availability of low-flashpoint oil fuels and their reduced environmental impact, the development of safety requirements for low-flashpoint oil fuels, taking into account the flashpoint as a risk parameter (i.e. a tiered approach), should be a high priority for the Sub-Committee;
- .6 work under this agenda item should focus on development of mandatory requirements through amendments to the IGF Code, rather than development of non-mandatory guidance;
- .7 the IGF Code should apply to low-flashpoint fuels as defined in SOLAS, to ensure that the Code introduces adequate, consistent and accepted safety standards for all low-flashpoint fuels;
- .8 at this stage, the evidence is not sufficient to support regulating low-flashpoint fuels operating on the diesel cycle differently (e.g. using a tiered approach) to other low-flashpoint fuels and a cautious approach should be taken; and
- .9 before deciding on whether or not a tiered approach is appropriate, a risk assessment should be carried out for each of the tiers;

3.8 Taking the above views into account, the Sub-Committee approved the report in general and took action as indicated in paragraphs 3.9 to 3.30.

Methyl/ethyl alcohol as fuel

3.9 Following consideration of annex 1 to document CCC 2/3/1, containing draft Interim guidelines for ships using methyl/ethyl alcohol as fuel, the Sub-Committee also considered the group's opinion that the interim guidelines on methyl/ethyl alcohols are assumed to be a standalone document with all relevant text from the IGF Code reproduced in full rather than making references to the Code. Having noted divergent views on whether the provisions for the use of methyl/ethyl alcohol as fuel should be developed as amendments to the IGF Code or as non-mandatory guidelines, the Sub-Committee decided to hold in abeyance any final decisions related to application issues until the safety provisions had been finalized from a technical perspective.

3.10 The Sub-Committee noted the outcome of the group's discussion on the terminology to be used in the context of methyl/ethyl alcohol, specifically that the meaning of "fuel" should be understood as "methyl/ethyl alcohol", and "vapour" of "fuel vapour" are more appropriate terms than "gas".

3.11 The Sub-Committee, having noted the progress made by the group in developing draft safety provisions for ships using methyl/ethyl alcohol as fuel (CCC 2/3/1, annex 1), referred them to the working group, for further development.

3.12 The Sub-Committee also instructed the working group to consider the need of forwarding any parts of the draft safety provisions to other sub-committees for review and to advise the Sub-Committee accordingly.

Requirements for fuel cells

3.13 In considering annex 2 to document CCC 2/3/1, containing draft amendments to the IGF Code regarding fuel cells, the Sub-Committee noted that, although some paragraphs contain provisions mentioning hydrogen, the group developed the requirements as draft amendments to part A-1 of the IGF Code, which covers natural gas only.

3.14 In this context, the Sub-Committee also noted the group's comments that the requirements are intended to address only small amounts of hydrogen associated with some specific fuel cell systems, such as Molten-Carbonate Fuel Cells (MCFC), and not for the use of hydrogen as the primary fuel.

3.15 Having noted the progress made by the group on the development of measures for fuel cells, the Sub-Committee further noted the following views:

- .1 consideration should be given on whether there should be any limitation in respect to the size of the fuel cell or the quantities of hydrogen involved; and
- .2 further technical comments needed to be taken into account before the draft requirements for fuel cells could be considered finalized.

3.16 Subsequently, the Sub-Committee endorsed the draft new text for fuel cells, in general, recognizing that further technical comments should be discussed in the working group, and decided to instruct the working group to prepare draft amendments to the IGF Code regarding fuels cells, based on annex 2 to document CCC 2/3/1.

3.17 With regard to the possible date of entry into force of draft amendments to the IGF Code finalized at the current session, the Sub-Committee noted that based on the *Guidance on entry into force of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1481), draft amendments to the IGF Code finalized at CCC 2 would have an entry-into-force date of 1 January 2020, unless there were exceptional circumstances.

Requirements for low-flashpoint oil fuels

3.18 The Sub-Committee considered the specific draft requirements for ships using low-flashpoint oil fuels, contained in annex 3 to document CCC 2/3/1, and noted the views of the correspondence group regarding the term "diesel", specifically that changing the term "diesel" to "oil fuels" maintains consistency with SOLAS regulation II-2/4.2 and allows the incorporation of other low-flashpoint oil fuels in the draft requirements.

3.19 The Sub-Committee also noted the background information on ambient temperatures in engine-rooms provided by the correspondence group and the progress made by the group in developing measures for ships using low-flashpoint oil fuels for inclusion in the IGF Code. In this regard, the Sub-Committee noted the view that what should be considered is the temperature of surfaces to be found on equipment or machinery in the engine room where oil fuel could land following spillage or a leak, rather than the ambient temperature.

3.20 The Sub-Committee further noted the progress made by the group on developing requirements for low-flashpoint oil fuels and that the group could not agree on a tiered approach to the requirements (i.e. three tiers of progressively more stringent requirements as the flashpoint decreases). On the subject of draft requirements for low-flashpoint oil fuels, the Sub-Committee additionally noted the following views:

- .1 the tiered approach, set out in square brackets in annex 3 to document CCC 2/3/1, should not be considered at this stage as it is a proposal that was put forward without addressing the concerns expressed at MSC 94 and SSE 2.
- .2 ships using low-flashpoint oil fuels should initially be designed and approved based on alternative design and arrangements procedures, in order to gather the necessary real-world experience, data and risk analyses that could inform the development of mandatory requirements at a later stage.
- .3 the proposal to permit the use of oil fuels with a flashpoint between 52°C and 60°C (tier 1) without any supplementary requirements to SOLAS chapter II-2, is not in line with the terms of reference of the correspondence group, since it could be considered equivalent to reducing the flashpoint requirement in SOLAS;
- .4 a tiered approach is suitable for low-flashpoint oil fuels since a lower flashpoint is correlated with a higher fire risk;
- .5 the consideration of requirements for the use of low-flashpoint oil fuels, particularly any potential tiered approach, should be wide-ranging and thorough;
- .6 the proposed use of oil fuels with a flashpoint as low as 43°C with no specific additional requirements is a point of concern and is not compatible with MSC.1/Circ.1321;
- .7 the reduction of the allowable flashpoint for oil fuel in SOLAS ships to 52°C is consistent with the flashpoint of automotive fuels and has no inherent increase in the fire risk;

- .8 the use of automotive diesel fuel for ships is being proposed and promoted, in order to ensure availability of low-sulphur marine fuel oil in SECAs, implying that environmental requirements take precedence over safety concerns;
- .9 bunker alerts have been issued on incidents of illegal supply of automotive diesel fuel to ships; and
- .10 the purpose of the *Guidelines for measures to prevent fires in engine-rooms and cargo pump-rooms* (MSC.1/Circ.1321), referenced in the draft requirements for low-flashpoint oil fuels prepared by the correspondence group, contain measures addressing oil fuels with a flashpoint above 60°C.

3.21 Having recalled the relevant decisions of MSC 94, SSE 2 and MSC 95 regarding the review of flashpoint requirements in SOLAS chapter II-2, the Sub-Committee confirmed the understanding that all safety concerns with regard to ships using low-flashpoint oil fuels should be addressed in the context of the IGF Code, without reopening discussion on the possibility of amending the flashpoint requirements in SOLAS.

3.22 In considering the way forward with regard to the development of requirements for low-flashpoint oil fuels in the IGF Code, and having taken the above views and understanding into account, the Sub-Committee agreed that the best way forward, at this stage, would be the development of a work plan and a list of considerations for assessing the risks and the implications of using low-flashpoint oil fuels on ships. Subsequently, the Sub-Committee instructed the working group accordingly.

LNG Bunkering Standard and Safety Checklists

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

- .1 MSC 95/3/20 (United States) providing references to sample bunker safety checklists developed by ISO and IAPH and proposing the development of a sample bunker checklist, based on the requirements in the draft IGF Code and the references provided, to be issued as guidance, in order to standardize implementation prior to the Code entering into force; and

- .2 CCC 2/3/2 (Marshall Islands, Panama, United States and ISO) reporting on the status of the development of an LNG Bunkering Standard by ISO/TC 8/WG 8, including a proposal to forward document MSC 95/3/20 to ISO based on the view that the development of a standardized bunker safety checklist is consistent with the scope of the work being performed by ISO TC 8/WG 8.

3.24 Having considered the above documents, the Sub-Committee expressed concern that ISO TC 8/WG 8 had conceded that standardization of LNG quick disconnect coupling designs is not feasible at this time and invited ISO to bring this work forward.

3.25 Notwithstanding the above, the Sub-Committee expressed its appreciation to ISO for its work in support of the IGF Code and agreed to recommend to MSC 96 to invite ISO to develop a standard LNG bunkering safety checklist, taking into account document MSC 95/3/20 and the proposal in paragraph 6 of document CCC 2/3/2, and report to CCC 3 on progress, including matters related to standardization of LNG quick disconnect coupling designs.

Proposed amendments to the IGF Code

3.26 The Sub-Committee considered document CCC 2/3/3 (China), proposing amendments to the IGF Code, including definitions for "bunkering station", "gas control system" and "gas safety system"; revised text for paragraph 15.2.6 of the Code on the independence requirements for the gas control system and the gas safety system; and revised text for paragraph 11.3.6 of the Code on fire protection for the LNG bunkering station located on open deck.

3.27 Following discussion, the Sub-Committee decided to instruct the working group to further consider document CCC 2/3/3 and advise the Sub-Committee on how best to proceed.

Explosion analysis of the bunkering station on an LNG-fuelled ship

3.28 The Sub-Committee noted with appreciation the information in document CCC 2/INF.16 (Republic of Korea), providing information on the results of a research project involving a gas explosion analysis on the bunkering station of an LNG-fuelled ship.

Establishment of the working group

3.29 The Sub-Committee established the Working Group on Amendments to the IGF Code and development of guidelines for low-flashpoint fuels and instructed it, taking into account the

outcomes of MSC 94, SSE 2 and MSC 95 (CCC 2/3), the IGF Code as adopted by resolution MSC.391(95), and the comments and decisions made in plenary, to:

- .1 further develop technical provisions for the safety of ships using methyl/ethyl alcohol as fuel, based on annex 1 to document CCC 2/3/1;
- .2 consider the need of forwarding any of the draft safety provisions for ships using methyl/ethyl alcohol as fuel to other sub-committees for review, and advise the Sub-Committee accordingly;
- .3 prepare draft amendments to the IGF Code regarding fuel cells, based on annex 2 to document CCC 2/3/1;
- .4 in the context of the IGF Code, develop a work plan and a list of considerations for assessing the risks and the implications of using low-flashpoint oil fuels;
- .5 further consider document CCC 2/3/3 and advise the Sub-Committee on how best to proceed; and
- .6 consider whether it is necessary for the correspondence group to be re-established and, if so, prepare terms of reference for consideration by the Sub-Committee;

Report of the working group

3.30 Having considered the report of the Working Group on Amendments to the IGF Code and development of guidelines for low-flashpoint fuels (CCC 2/WP.[...]), the Sub-Committee approved it in general and took action as described in paragraphs 3.31 to 3.[...].

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

4 SAFETY REQUIREMENTS FOR CARRIAGE OF LIQUEFIED HYDROGEN IN BULK

Background

4.1 The Sub-Committee recalled that CCC 1 had noted the information in document CCC 1/INF.23 (Japan), regarding the Hydrogen Energy Supply Chain (HESC) project planned by Japan, which would include consideration of requirements for carriage of liquefied hydrogen in bulk by ship.

4.2 The Sub-Committee also recalled that MSC 94, having considered document MSC 94/18/3 (Australia and Japan), proposing to develop safety requirements for carriage of liquefied hydrogen in bulk and to amend the IGC Code, agreed to include, in the 2014-2015 biennial agenda of the CCC Sub-Committee and the provisional agenda of CCC 2, a new unplanned output on "Safety requirements for carriage of liquefied hydrogen in bulk", with a target completion date of 2016.

Draft Interim recommendations for carriage of liquefied hydrogen in bulk

4.3 The Sub-Committee had for its consideration document CCC 2/4 (Australia and Japan), proposing draft Interim recommendations for carriage of liquefied hydrogen in bulk. In particular, it was proposed that the draft interim recommendations are further developed by a correspondence group, with a view to instructing a working or drafting group at CCC 3 to finalize them. It was also proposed that appropriate amendments to the IGC Code be considered in the future, as experience is gained from shipments of liquefied hydrogen in bulk in compliance with the interim recommendations.

4.4 Following consideration, the Sub-Committee, having noted the view that the transport of hydrogen in bulk poses significant safety challenges that need to be satisfactorily addressed, agreed that the draft Interim recommendations for carriage of liquefied hydrogen in bulk, as set out in the annex to document CCC 2/4, should be developed further, in lieu of amendments to the IGC Code, which could be considered in future, as appropriate.

Establishment of a correspondence group

4.5 Having considered the above matters, the Sub-Committee established the Correspondence Group on Development of Safety Requirements for Carriage of Liquefied

Hydrogen in Bulk, under the coordination of Japan*, and instructed it to further develop the draft Interim recommendations for carriage of liquefied hydrogen in bulk, taking into account the annex to document CCC 2/4, and submit a written report to CCC 3.

5 AMENDMENTS TO THE IMSBC CODE AND SUPPLEMENTS

GENERAL

5.1 The Sub-Committee recalled that MSC 95 had adopted amendments (03-15) to the IMSBC Code by resolution MSC.393(95), which is expected to enter into force on 1 January 2017.

5.2 The Sub-Committee also recalled that MSC 95 had approved relevant MSC circulars related to the IMSBC Code (MSC 95/22, paragraph 3.116).

5.3 The Sub-Committee noted that, after consideration of the submissions under this agenda item, it would provide clear advice, instruction and authorization to E&T 25, in order to prepare draft amendments (04-17) to the IMSBC Code, for consideration at CCC 3.

REPORT OF E&T 22

5.4 The Sub-Committee considered the report of E&T 22 (CCC 2/5), together with the related documents submitted to the session and, having approved it in general, took the following actions:

- .1 noted the actions taken by the group regarding the establishment of a notational listing system for identifying cargoes to be classified as Materials Hazardous only in Bulk (MHB) in section 9.2.3 of the IMSBC Code;
- .2 noted the actions taken by the group to amend the individual schedule for MANGANESE ORE FINES by including additional text concerning the grain size distribution under the "Bulk Cargo Shipping Name" and in the section for "Characteristics";

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- .3 noted that the group finalized the amendments (03-15) to the IMSBC Code and that the Secretariat circulated the final draft amendments in accordance with SOLAS article VIII, for consideration and subsequent adoption by MSC 95;
- .4 noted that the group amended MSC.1/Circ.1453 on *Guidelines for the submission of information and completion of the format for the properties of cargoes not listed in the International Maritime Solid Bulk Cargoes (IMSBC) Code and their conditions of carriage*, according to subsection 1.3.3 of the IMSBC Code, and that the Secretariat prepared the draft amendments for submission to MSC 95 for approval;
- .5 noted that, as requested by the group, the Secretariat prepared the draft revision of MSC.1/Circ.1454 on *Guidelines for developing and approving procedures for sampling, testing and controlling the moisture content for solid bulk cargoes which may liquefy*, for submission to MSC 95 for approval;
- .6 noted the group agreed to some consequential amendments to MSC.1/Circ.1395/Rev.1 on *Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective* and that, as requested by the group, the Secretariat prepared the draft amendments for submission to MSC 95 for approval;
- .7 noted the views of the group in regard to the need of wording harmonization within the sections of both, existing and future individual schedules, which deal with similar safety issues and further noted the opinion of the group on the possibility of developing a guidance/criteria, which would facilitate the assessment and the decision making processes by the E&T Group;
- .8 noted the action taken by the group regarding the three draft individual schedules for OILY VEGETABLES AND THEIR PROCESSING BY-PRODUCTS;
- .9 noted the deliberations and recommendations of the group regarding the draft individual schedule for IRON SILICATE SLAG; and

- .10 having noted the views and recommendations of the group regarding the draft individual schedule for "CORROSIVE SOLID, N.O.S., UN 1759, Metal sulphide concentrate (see also Mineral Concentrates schedule)", the Sub-Committee considered the following documents:
- .1 CCC 2/5/8 (Australia), proposing to amend the IMSBC Code in regard to the Bulk Cargo Shipping Name (BCSN) to be used for dangerous goods transported in solid bulk form and, in particular, it is proposed to amend the requirement that the Proper Shipping Name (PSN), as per the IMDG Code, in order to use the BCSN, when the PSN is for a generic entry in the IMDG Code Dangerous Goods List (DGL);
 - .2 CCC 2/5/9 (Australia), presenting a revised new individual schedule for CORROSIVE SOLID N.O.S. UN 1759 Metal Sulphide Concentrates Group A and B cargo, which is based on the above proposal;
 - .3 CCC 2/5/23 (Belgium, Germany and the Netherlands), commenting on the use of a UN number corresponding to cargoes not otherwise specified by name (N.O.S.), which would reflect the application of a different regime of carriage of dangerous goods, i.e. the IMDG Code versus the IMSBC Code, which is always based on defined bulk cargo shipping names, and offering a way forward by amending the definition of Bulk Cargo Shipping Name (BCSN) in Section 1 of the IMSBC Code; and
 - .4 CCC 2/5/31 (IIMA), providing comments to document CCC 2/5/9, in particular, raising a general concern with the prescribed test method for assessing corrosivity to metals for solid samples, and stating that applying that test to metal sulphide concentrates may result in the inappropriate classification of "corrosive solids MHB" or "corrosive to metals Class 8". It also stressed that mining companies have reported very few corrosion problems from shipowners in decades of transporting these materials in bulk and packaged form, which questions the suitability of the test for solid cargoes.

After considering the above documents, the Sub-Committee agreed, in general, that the PSN should not be used as a BCSN for N.O.S cargoes, taking into account that this acronym has a different meaning in the IMDG Code. On the other hand, it was recognized that the use of the (dangerous goods) UN No. supplementing a BCSN in the IMSBC Code was useful in order to provide shippers accurate information on the nature of the cargo in relation to dangerous hazards and properties. In this context, the Sub-Committee also agreed that the best option for the proposed new individual schedule (CCC 2/5/9) was to change the BCSN to "METAL SULPHIDE CONCENTRATES, CORROSIVE (UN 1759), (see also Mineral Concentrates schedules)". By doing so, the inclusion of the N.O.S. related to the IMDG Code could be avoided.

Additionally, the Sub-Committee agreed that the draft paragraph 4.4.1 contained in document CCC 2/5/8 and the proposed risk table shown in document CCC 2/5/9 should be further revised.

Regarding the information provided in document CCC 2/5/31, the Sub-Committee supported the continued use of the test method presently prescribed for assessing the corrosivity of solid bulk cargoes until an alternative test may be agreed in future.

Having considered the above matters, the Sub-Committee agreed to refer documents CCC 2/5/8 and CCC 2/5/9 to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

PROPOSALS FOR AMENDMENT 04-17 OF THE CODE

Amendments to existing individual schedules and provisions in the IMSBC Code

Ferrosilicon

5.5 The Sub-Committee considered document CCC 2/5/1 (Germany), proposing to amend the bulk cargo shipping name (BCSN) in the individual schedule for FERROSILICON and to correct the size of the briquettes in the characteristics table. This proposal was related to the percentages of silicon contents as indicated in both schedules for FERROSILICON UN 1408 and FERROSILICON, which seemed to be overlapped and might result in the wrong assignment of a cargo to the appropriate individual schedule.

5.6 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer this document to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

New test to determine a TML for COAL

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

- .1 CCC 2/5/6 (Australia), explaining the results of the research on the potential risk of liquefaction of COAL, carried out by Australia in order to investigate whether black coals are likely to liquefy under shipping conditions and to develop an improved TML testing protocol, intended for use with coal with a top size up to 50mm that are found to be susceptible to liquefaction during shipping. The document also informed that the outcome of the research leading to the development of a test *Modified Proctor/Fagerberg Method for Coal*, which is suitable for coal up to 50 mm in size, and proposed to include such new test in Appendix 2 of the IMSBC Code in order to determine the Transport Moisture Limit (TML) for COAL;
- .2 CCC 2/INF.6 (Australia), presenting a simplified summary of the research on the potential risk of liquefaction of COAL and outcomes, including screening criteria based on particle size distribution;
- .3 CCC 2/INF.7 (Australia), containing the complete report from the Australian Coal Industry's Research program (ACARP) as reviewed by both the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) and independently peer-reviewed by the Imperial College in London; and
- .4 CCC 2/5/7 (Australia), proposing to amend the existing individual schedule for COAL in Appendix 1 of the IMSBC Code, taking into consideration the particular size distribution of this cargo and based on the proposed *Modified Proctor/Fagerberg Method for Coal*.

5.8 After consideration, the Sub-Committee agreed, in general, to the proposals contained in the above documents, including the test Modified Proctor/Fagerberg, for inclusion in Appendix 2 of the IMSBC Code in order to determine the TML for Coal.

5.9 In this regard, the Sub-Committee noted several technical concerns regarding the following issues:

- .1 safety margins provided by the modified Proctor/Fagerberg test are sufficiently conservative to ensure that all cargoes tested will not be shipped above their TML (CCC 2/5/6);
- .2 the particle size distribution (PSD) (CCC 2/5/7);
- .3 ship size with respect to the loss of some small vessel of from 1300GT to 3000GT approximately and where liquefaction of Coal had been identified as a probable factor; and
- .4 calculation of the TML in blended cargoes.

5.10 Subsequently, the Sub-Committee, taking into account that these technical issues need further consideration, agreed to refer the documents in paragraph 5.7 to the Working Group on IMSBC matters, instructing it to prepare terms of reference for a correspondence group in order to evaluate the properties of Coal (see paragraphs....).

Silicon slag Group C

5.11 The Sub-Committee considered documents CCC 2/5/11 and CCC 2/INF.9 (Australia), proposing to amend the existing schedule for SILICON SLAG Group C in order to include an extended bulk density (BD) and stowage factor (SF) range in the table for "Characteristics" as well as the requirements for heavy cargoes in the section for "Loading" and providing the cargo information summary, including the shipper's questionnaire.

5.12 After consideration, the Sub-Committee noted the concerns expressed on amending the existing schedule for SILICON SLAG Group C, based on information provided only for Silicon Dross. It was generally agreed that, in order to avoid the preparation a new individual schedule, the solution could be to add a synonym as "Silicon Dross" to the existing schedule.

5.13 Subsequently, the Sub-Committee agreed, in principle, to this proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Direct Reduced Iron (DRI)

5.14 The Sub-Committee considered document CCC 2/5/13 (Islamic Republic of Iran), introducing a new patented product related to the three groups of DIRECT REDUCED IRON (DRI) as contained in the IMSBC Code and proposing amendments to the existing schedules for DIRECT REDUCED IRON (A) and DIRECT REDUCED IRON (B) by including in the BCSN reference to the newly presented product.

5.15 The Sub-Committee noted that the existing schedules for DIRECT REDUCED IRON (DRI) were agreed after an extensive technical evaluation and discussions and, therefore, it would be difficult to consider changes to them without a detailed analysis. The document also informed that the cargo CBIC properties are substantially similar to those DRI. The Sub-Committee also noted that detailed information was not provided to show that both cargoes could behave in the same manner under ocean going conditions.

5.16 The Sub-Committee agreed that it was premature to add a new schedule for this cargo in the absence of additional information such as an evaluation of physical and chemical properties of the material, review of the material description, and review of the preparation and handling procedures.

5.17 After consideration, the Sub-Committee decided to refer this document to E&T 25 for further consideration by the group, subject to the submission of additional technical information.

Direct Reduced Iron (D)

5.18 The Sub-Committee noted document CCC 2/5/17 (IIMA), informing on the joint efforts of the International Iron Metallica Association, the Bolivarian Republic of Venezuela and others (i.e. taskforce of industry participants and experts) to improve the draft individual schedule for Direct Reduced Iron (D), which had been proposed in documents E&T 21/5/8 and CCC 1/5/18, and providing an updated progress report. The observer from IIMA announced that a revised schedule would be submitted for consideration by E&T 25.

5.19 Subsequently, the Sub-Committee invited interested delegations to provide comments directly to IIMA in this regard.

Metal sulphide concentrates in relation to MHB hazards

5.20 The Sub-Committee considered document CCC 2/5/15 (Belgium), proposing to amend the existing schedule for METAL SULPHIDE CONCENTRATES, in order to ensure that the listed hazards are consistent with all potentially relevant Group B hazards for these cargoes, and providing a table showing which of the MHB hazard categories may be considered relevant for Metal sulphide concentrates.

5.21 After consideration, the Sub-Committee noted the lack of information contained in the proposed schedule, such as on chemical hazards, human health effects and toxic gas detection information, nevertheless it was generally agreed that the proposal and possible amendments to the section for "Characteristics" could be further discussed.

5.22 The Sub-Committee decided to refer this document to E&T 25 for further consideration.

Classification of Alumina Hydrate as MHB

5.23 The Sub-Committee considered document CCC 2/5/28 (IBTA), recommending that the MHB classification of ALUMINA HYDRATE (aluminium hydroxide) be removed and its listing as a Group A and B cargo be amended to Group A cargo only. The Sub-Committee noted that, based on a recent independent research carried out, there were some opinions that this cargo does not fall within the criteria specified in the IMSBC Code (Section 9) for classification as a material hazardous only in bulk (MHB) or for classification in the IMDG Code (Part 2) as dangerous goods.

5.24 The Sub-Committee noted document CCC 2/INF.23 (IBTA), containing the test results regarding the skin irritation, eye irritation and skin sensitization characteristics for ALUMINA HYDRATE (aluminium hydroxide), which were obtained in accordance with relevant guidelines for testing of chemicals.

5.25 The Sub-Committee noted that this matter was previously discussed, and that the existing schedule for ALUMINA HYDRATE (aluminium hydroxide) is the result from a proposal submitted to DSC 16 (DSC 14/4/60) for two new individual schedules for ALUMINA HYDRATE and ALUMINA HYDROXITE because E&T 17 agreed to a single schedule as Group A and B, which was adopted by MSC 92.

5.26 After consideration, the Sub-Committee decided to refer these documents to E&T 25 for further consideration and invited interested delegations to submit relevant information to E&T 25.

Ammonium Nitrate Based Fertilizer (non-hazardous)

5.27 The Sub-Committee considered document CCC 2/5/24 (Germany), proposing to classify AMMONIUM NITRATE BASED FERTILIZER (non-hazardous) as a Group B cargo, taking into account that the safety requirements had been already contained in various sections of the schedule, such as reference to temperature monitoring and the detection of spontaneous heating. The Sub-Committee also noted the example of other existing industry guidelines (i.e. Guidance for Sea Transport of Ammonium Nitrate based Fertilizers by the European Fertilizer Manufacturers Association (EFMA)), containing even more safety requirements (for all fertilizers) than listed in the IMSBC Code.

5.28 After consideration, the Sub-Committee agreed, in principle, to the proposal and decided to refer document CCC 2/5/24 to E&T 25 for further consideration (i.e. MHB classification) and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

MHB Classification

5.29 The Sub-Committee considered document CCC 2/5/26 (Germany), proposing to instruct the E&T Group to evaluate the MHB notifications of those individual schedules in the IMSBC Code that do not specify the basis for MHB classification. The Sub-Committee noted that this proposal is based on the recent establishment of a notational listing system for identifying MHB cargoes (subsection 9.2.3 of the Code) which was adopted in amendment 03-15 and covering new cargoes. Germany provided a list of cargoes listed in the Code, which should be analysed under the new MHB criteria.

5.30 The Sub-Committee noted that the proposal had merit to be considered, nevertheless it was also noted that it would be premature to change the existing MHB classification in the identified (CCC 2/5/26) individual schedules without more detailed technical information and that this work could be carried out in a longer time frame and not for inclusion in amendments 04-17.

5.31 After consideration, the Sub-Committee decided to refer document CCC 2/5/26 to E&T 25 for further consideration and, in order to facilitate the deliberations of the group, invited

Member Governments and international organizations to provide additional related information to E&T 25 on specific schedules of those listed in the annex to document CCC 2/5/26.

Clinker Ash

5.32 The Sub-Committee considered documents CCC 2/5/25 and CCC 2/INF.21 (Germany), proposing to include "Bottom Ash" as a synonym under the BCSN in the existing schedule for CLINKER ASH, because the current BCSN is uncommon in Europe since the European chemicals regulation only refers to "Bottom Ash", which has created some discussions among producers arguing that the cargo should be Group C cargo and that the product should be shipped under the name "Bottom Ash". The Sub-Committee noted the technical documentation support for Clinker Ash, including the IMO solid bulk cargo information reporting questionnaire.

5.33 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Proposed new individual schedules

Flat glass cullet in bulk

5.34 The Sub-Committee considered documents CCC 2/5/26 and CCC 2/INF.2 (Sweden), proposing a new individual schedule for Flat glass cullet in bulk and presenting the IMO solid bulk cargo information reporting questionnaire, the corresponding material safety data sheet (MSDS) for the product as well as a chemical assay supporting the proposal.

5.35 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Monocalciumphosphate (MCP) in bulk

5.36 The Sub-Committee considered documents CCC 2/5/3 and CCC 2/INF.3 (Sweden), proposing a new individual schedule for Monocalciumphosphate (MCP) in bulk as a Group A cargo and presenting the IMO solid bulk cargo information reporting questionnaire, the corresponding material safety data sheet (MSDS) for the product as well as results of

evaluation of corrosive properties, results of liquefaction tests and additional cargo information for the product.

5.37 The Sub-Committee noted that the requirements for a Group A cargo classification need to be confirmed as well as for the criteria as MHB cargo.

5.38 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Synthetic silicon dioxide in bulk

5.39 The Sub-Committee considered documents CCC 2/5/4 and CCC 2/INF.4 (Sweden), proposing a new individual schedule for Synthetic Silicon Dioxide in bulk, and presenting the IMO solid bulk cargo information reporting questionnaire, the corresponding material safety data sheet (MSDS) for the product and the results of liquefaction tests supporting the proposal as Group A cargo.

5.40 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Synthetic calcium fluoride in bulk

5.41 The Sub-Committee considered documents CCC 2/5/5 and CCC 2/INF.5 (Sweden), proposing a new individual schedule for Synthetic calcium fluoride in bulk as Group A cargo, and presenting the IMO solid bulk cargo information reporting questionnaire, the corresponding material safety data sheet (MSDS) for the product and the results of liquefaction tests supporting the proposal.

5.42 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Radioactive material, low specific activity (LSA-I) non-fissile or fissile-excepted UN 2912, Sand, Mineral Concentrate

5.43 The Sub-Committee considered document CCC 2/5/10 (Australia), proposing a new individual schedule for Radioactive material, low specific activity (LSA-I) non-fissile or fissile-excepted UN 2912, Sand, Mineral Concentrate as Group A and B cargo. The Sub-Committee noted that Australian shippers have required an authorization (according to subsection 1.3 of the IMSBC Code) from the Australian competent Authority in order to perform shipments (loading) from their ports. It was also noted that, by combining the provisions of the existing schedules for RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I) non-fissile or fissile-excepted UN 2912 and SAND, HEAVY MINERAL, the result can provide a suitable and alternative solution for those operations in Australia.

5.44 The Sub-Committee noted document CCC 2/INF.8 (Australia), presenting the technical cargo information (MSDS) and the IMO solid bulk cargo information reporting questionnaire, which were used to develop the proposed new individual schedule for this cargo.

5.45 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer the above documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Silicomanganese

5.46 The Sub-Committee considered document CCC 2/5/12 (Australia), proposing a new individual schedule for Silicomanganese as Group C cargo and explaining Australia's long standing experience on the transport of this product that apparently does not match with the characteristics of that contained in the existing schedule for SILICOMANGANESE (low carbon), which is classified as Group B cargo.

5.47 The Sub-Committee noted document CCC 2/INF.10 (Australia), presenting the technical cargo information (MSDS) and the IMO solid bulk cargo information reporting questionnaire, which were used to develop the proposed new individual schedule for this cargo.

5.48 The Sub-Committee also considered document CCC 2/5/30 (South Africa), proposing a new individual schedule for Silicomanganese (SiMn) in bulk as Group C cargo and providing technical information on the cargo and images supporting this proposal.

5.49 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer these documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Titanomagnetite Sand

5.50 The Sub-Committee considered documents CCC 2/5/14 and CCC 2/INF.12 (New Zealand), proposing a new individual schedule for Titanomagnetite Sand as Group A cargo, and providing the IMO solid bulk cargo information reporting questionnaire supporting this proposal.

5.51 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer these documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Monoammonium Phosphate (M.A.P.) – Mineral Enriched

5.52 The Sub-Committee considered documents CCC 2/5/18 and CCC 2/INF.13 (Australia), proposing a new individual schedule for Monoammonium Phosphate (M.A.P.) – Mineral Enriched as Group B cargo and containing the IMO solid bulk cargo information reporting questionnaire, which was used to develop the proposed new individual schedule for this cargo.

5.53 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer these documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

Upgraded Ilmenite (UGI)

5.54 The Sub-Committee considered document CCC 2/5/20 (South Africa), proposing a new individual schedule for Upgraded Ilmenite (UGI) as Group C cargo, and providing some cargo's technical information and images in supporting this proposal.

5.55 Having noted the concerns expressed on the lack of supporting information to determine the appropriate group of cargo, the Sub-Committee invited South Africa to present a new submission to CCC 3, observing the requirements contained in MSC.1/Circ.1453/Rev.1 on *Guidelines for the submission of information and completion of the format for the properties of cargoes not listed in the IMSBC Code*.

Pig iron by-products

5.56 The Sub-Committee considered documents CCC 2/5/27 and CCC 2/INF.22 (Germany), proposing a new individual schedule for Pig iron by-products as Group C cargo, and containing the IMO solid bulk cargo information reporting questionnaire and the material safety data sheet for this cargo, supporting this proposal.

5.57 After consideration, the Sub-Committee agreed, in principle, to the above proposal and decided to refer these documents to E&T 25 for further consideration and inclusion, if appropriate, in the draft amendment 04-17 of the Code.

PROVISIONS FOR SOLID BULK CARGOES THAT MAY LIQUEFY

New Caledonian nickel ores

5.58 The Sub-Committee noted document CCC 2/5/19 (France), presenting a progress report on Rheolat 2 project to optimize a VTPB (Vibration Table with Penetration Bit) transportability test for New Caledonian nickel ores and stating that the project will be completed in one year's time. The Sub-committee was also informed that it would be proposed at CCC 3 to disseminate the project's outcome through a CCC circular.

Transport of Bauxite

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

- .1 CCC 2/5/16 (Bahamas), advocating precautionary amendments to the existing individual schedule for BAUXITE to improve the safety of seafarers and shipping, following the loss of lives of eighteen seafarers during the rapid sinking in open water of **Bulk Jupiter** carrying 46,400 tonnes of bauxite, and informing that a marine safety investigation has provided evidence to suggest that liquefaction of cargo lead to the loss of stability of the sank ship. It was proposed to reclassify BAUXITE as Group A Cargo, or alternatively:

- .1 BAUXITE should be treated as a cargo for which the master should be automatically provided with the test certificates under 4.3.1 of the Code;
 - .2 where such test certificates are not supplied, are deficient in any respect or have any other cause for concern, BAUXITE should be treated as Group A;
 - .3 test certificates issued for BAUXITE should clearly set out the actual proportions of lumps and powder for the cargo to be loaded as determined through testing; or
 - .4 additional weather precautions should be specified e.g. as for Borax (Pentahydrate Crude);
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- .2 CCC 2/5/21 (Australia, Brazil, China, Malaysia, Marshall Islands and BIMCO), proposing to issue a new circular warning of the potential risk of liquefaction associated with the transport of BAUXITE in bulk and informing that a related research is being carried out. Nevertheless the co-sponsors considered it is prudent to advise shippers, terminal operators, ship owners, ship operators, charterers, shipmasters and all other entities concerned with the shipment of BAUXITE of the need to exercise care and take appropriate action;
 - .3 CCC 2/5/22 (Australia, Brazil, China, Malaysia, Marshall Islands and BIMCO), proposing the establishment of a correspondence group (CG) to examine the risk of liquefaction of BAUXITE and/or to determine the need of additional tests in order to amend the existing individual schedule, and also proposing the draft terms of reference for that CG;
 - .4 CCC 2/INF.20 (Australia, Brazil, China, Malaysia, Marshall Islands and BIMCO), containing a summary and update of the research work (see CCC 2/5/21) on Bauxite, carried out by Australian and Brazilian industry. The Sub-Committee noted that, whilst the research was not complete, industry from Australia and Brazil had provided their competent Authorities with an overview of the work carried out to date and the scope and timelines for their future work;

- .5 CCC 2/5/29 (INTERCARGO), containing a proposal to amend the individual schedule for BAUXITE in the IMSBC Code, taking into account the acknowledged potential for this cargo to liquefy under certain circumstances, and proposing to amend the Group of the cargo as "C or A", as well as additional changes to the section for "Hazards".

5.60 Having noted that the investigation report of **Bulk Jupiter** had already been uploaded to the GISIS data-base by the Administration of the Bahamas, the Sub-Committee agreed that special care needed to be taken when carrying Bauxite on board the ships and emphasized the need for taking immediate action in order to prevent further loss of lives.

5.61 The Sub-Committee also noted with appreciation the on-going research work (CCC 2/5/21) on Bauxite, carried out by Australian and Brazilian industries, and the new related research project launched by China in April 2015, suggesting that Bauxite has various behaviours based on the parent rock and how the materials weather. The Sub-Committee invited relevant parties to make available the outcome of those researches when finalized.

5.62 The Sub-Committee, having noted the need to amend the individual schedule of BAUXITE and the need to examine the outcome of relevant researches, agreed to prepare a CCC circular, as an interim measure, containing safety awareness information on the transport of the cargo, using as a basis document CCC 2/5/21.

5.63 In this context, the Sub-Committee also agreed to the proposal (CCC 2/5/22) to establish a correspondence group in order to evaluate the properties of Bauxite and its potential risk of liquefaction, using the outcomes of relevant researches, with a view that the deliberations of the correspondence group would contribute to the amendment of the individual schedule for BAUXITE.

ESTABLISHMENT OF A WORKING GROUP

5.64 Recognizing the urgent need to address the safe concerns raised regarding the transport of Bauxite, the Sub-Committee established the Working Group on IMSBC Code Matters and instructed it, taking into account the comments and decisions made in plenary and based on documents CCC 2/5/6, CCC 2/5/7, CCC 2/5/INF.6, CCC 2/5/INF.7, CCC 2/5/16, CCC 2/5/21, CCC 2/5/22, CCC 2/5/29 and CCC 2/INF.20, to:

- .1 further consider the safety transport of Bauxite and prepare a draft CCC circular on Potential risk of liquefaction on the transport of Bauxite in bulk; and
- .2 prepare draft terms of reference for the correspondence group on the evaluation of properties of Bauxite and Coal.

REPORT OF THE WORKING GROUP

5.65 Having considered the report of the Working Group (CCC 2/WP.5) on IMSBC Code Matters, the Sub-Committee approved it, in general, and took action as indicated in the following paragraphs:

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

DRAFT AMENDMENT 04-17 OF THE IMSBC CODE AND INSTRUCTIONS TO THE E&T GROUP

Instructions to the E&T Group

5.66 Having considered the above matters, the Sub-Committee instructed E&T 25 to prepare draft amendments (04-17) to the IMSBC Code, based on the documents submitted to CCC 2 and related documents submitted to E&T 25, taking into account comments made and decisions taken by the Sub-Committee, and submit a written report to CCC 3.

5.67 The Sub-Committee also instructed E&T 25 to consider new proposals, if submitted, and advise CCC 3 accordingly.

5.68 The Sub-Committee noted that the provisional agenda for E&T 25 will be available in due course as document E&T 25/1.

6 AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

GENERAL

6.1 The Sub-Committee recalled that MSC 93 had adopted amendments (37-14) to the IMDG Code by resolution MSC.372(93), which is envisaged to enter into force on 1 January 2016.

6.2 The Sub-Committee also recalled that CCC 1 had instructed the Editorial and Technical Group (E&T 23) to prepare the draft amendment 38-16 of the code and the draft editorial corrections to amendment 37-14 to the IMDG Code.

6.3 The Sub-Committee noted that, after consideration of the submissions under this agenda item, it should provide clear advice, instruction and authorization to E&T 24, in order to finalize the draft amendment 38-16 to the IMDG Code, with a view to adoption at MSC 96 in 2016.

REPORT OF E&T 23

6.4 The Sub-Committee considered the report of E&T 23 (CCC 2/6), together with the related documents submitted to the session and, having approved it in general, took the following actions:

- .1 agreed, in principle, to the draft editorial corrections to amendment 37-14 of the IMDG Code (CCC 2/6, annex 1) and referred the document to E&T 24, together with document CCC 2/6/8 (France), presenting editorial corrections to the French versions (electronic and published) of the IMDG Code amendment 37-14, for consideration and finalization;

The delegation of Spain informed the Sub-Committee that, using the above document as reference, they had prepared the draft editorial corrections to amendment 37-14 of the IMDG Code applicable to the Spanish version of the Code and that these corrections have been submitted directly to the Secretariat. The Sub-Committee agreed to refer the draft corrections prepared by Spain to E&T 24 for finalization of the draft editorial corrections.

- .2 having agreed, in principle, to the draft amendment 38-16 of the IMDG Code, the Sub-Committee considered the following documents:
 - .1 CCC 2/6/13 (Germany), proposing to further amend the draft amendment 38-16 (CCC 2/6, annex 2) with regard to lithium batteries contained in vehicles, engines and machinery, in particular on SPs 240, 312, 363 and 285; and
 - .2 CCC 2/6/14 (Secretariat), providing information in regard to the forty-seventh session of the UN TDG Sub-Committee.

After consideration, the Sub-Committee noted that, regarding the proposal in document CCC 2/6/13, the UN TDG Sub-Committee is in the process of considering amendments to these Special Provisions (SP) and that concrete proposals from interested experts were required. In this context some concerns were expressed about including such amendments of the proposed SPs in the IMDG Code, before a decision is taken by the UN TDG Sub-Committee for the next amendment of the UN Model Regulations.

The Sub-Committee further noted that the UN TDG Sub-Committee is aware of this situation and, therefore, for the time being, the other mode of transport bodies should find their most appropriate solution regarding the transport of lithium batteries contained in vehicles, engines and machinery.

In this context, the Sub-Committee generally agreed that, by the time this issue is considered and finalized by the UN TDG Sub-Committee and considering the importance of this safety related matter, the proposed SP's (CCC 2/6/13) could be included within the next draft amendment to the IMDG Code under the SP's 900 series, which is the usual practice when dealing with those SP's that are specific to maritime transport. Finally, the Sub-Committee agreed to refer documents CCC 2/6/13 and CCC 2/6/14 to E&T 24 for consideration when finalizing draft amendment 38-16 of the Code.

Regarding the discussions held at E&T 23 on transport provisions for UN 3166, the delegation of IACS expressed its disagreement on the deliberations of the group (CCC 2/6, paragraphs 3.50 to 3.52), informing that the issue on the application of the requirements of the IMDG Code and SOLAS chapter II-2, related to spaces carrying vehicles with fuel in their tanks, could not be addressed or solved by means of a unified interpretation. IACS was still of the opinion that there are problems with understanding the provisions relating to spaces carrying vehicles with fuels in their tanks, especially regulations 2.2.19 and 2.2.20 of SOLAS chapter II-2. IACS also informed that a document to MSC will be submitted in order to request an unplanned output to resolve this issue and invited interested Member States to support the above-mentioned possible submission to the Committee.

.3 noted that the group invited the UN TDG Sub-Committee to consider several issues identified by the group;

- .4 with regard to the revision of DSC/Circ.12 on *Guidance on the continued use of existing IMO type portable tanks and road tank vehicles for the transport of dangerous goods* (CCC 2/6, annex 3), agreed, in principle, to the draft amendments prepared by the group and decided to refer the document to the drafting group for finalization (see paragraph 6.40);
- .5 agreed, in principle, to the draft amendments to MSC/Circ.1025 on Emergency response procedures for ships carrying dangerous goods (EmS Guide), and instructed E&T 24 to finalize it;
- .6 regarding non-declared and misdeclared dangerous goods cargoes, agreed to the draft amendments to MSC.1/Circ.1442 on Inspection programmes for cargo transport units carrying dangerous goods, and noted document CCC 2/INF.19 (Republic of Korea), providing information on a system that the Republic of Korea was developing in order to identify, before loading, any suspected non-declared/misdeclared dangerous goods;

The Sub-Committee further noted that the topic of inspections of misdeclared dangerous goods cargoes has been discussed over the past years and, as a result, MSC.1/Circ.1442 was issued. The circular has been developed with the intention of addressing all types of cargoes, yet its title gives the impression that it focuses only on dangerous goods. In this context, it was agreed to instruct the E&T group to consider the possibility of finding a better way to express in the circular's title, that MSC.1/Circ.1442 is applicable to all cargoes carried in cargo transport units.

- .7 noted the recommendations of the group that the issue of the guidelines for the approval of offshore containers handled in open seas should be dealt by CCC 2, and invited interested delegations to present documents to the Sub-Committee in future sessions with regard to possible revision to MSC/Circ.860; and
- .8 noted the deliberations and recommendations of the group with regard to the revision of FAL form 7 and agreed to the corresponding draft amendments (CCC 2/6, annex 6), for submission to FAL 40.

The delegation of Spain expressed its opinion regarding the recommendation by the group that it would be helpful for users to have additional guidance specifying further on which type and format of information is required in the boxes of the draft FAL Form 7 (CCC 2/6 annex 6) prepared by E&T 23. In this context, it was suggested that E&T 24 could be instructed to develop such draft additional information.

Having considered that the FAL Committee could decide on how to include such additional information within the FAL Form itself (i.e. footnotes, rear page of the FAL Form or within the FAL Explanatory Manual), the Sub-Committee agreed to instruct E&T 24 to develop a general draft of the information required in the boxes, as necessary, of the draft FAL Form 7 and further instructed the group to submit this information directly to FAL 40 for its consideration and inclusion, if appropriate, in the ongoing revision of the FAL Convention.

OUTCOME OF OTHER IMO BODIES

6.5 The Sub-Committee considered document CCC 2/2/2, containing information regarding the decisions made by MSC 95 relevant to the work of the Sub-Committee, in particular HTW 2's recommendation (see also document CCC 2/2/1, paragraph 7) to forward the draft MSC circular on *Guidelines on consolidated IMO provisions for the safe carriage of dangerous goods in packaged form by sea* to CCC, for review and finalization, with a view to subsequent approval by MSC 96.

6.6 Following discussion, the Sub-Committee decided to refer the draft MSC circular (HTW 2 WP.5, annex 2) to E&T 24 for finalization.

OTHER PROPOSALS RELATING TO AMENDMENT 38-16

Marking methods for CTUs in relation to fumigation and the risk of asphyxiation

6.7 The Sub-Committee considered document CCC 2/6/1 (Germany), proposing to improve the marking methods for fumigated cargo transport units and cargo transport units containing substances presenting a risk of asphyxiation, and noted that the provision in question was formerly contained in chapter 5.2 of the Code (amendment 34-08) and had been transferred to chapter 5.5 with amendment 35-10. The Sub-Committee also noted that the general placarding provisions of chapter 5.3 of the Code were no longer applicable to the fumigation warning sign and that the document proposed to re-establish in chapter 5.5 a provision related to the quality of the warning sign.

6.8 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Water-reactive materials (class 4.3) in relation to segregation

6.9 The Sub-Committee considered document CCC 2/6/3 (Germany), proposing consequential amendments to the segregation provisions for general cargo ships in the segregation table in 7.6.3.5.2. The Sub-Committee noted that amendment 37-14 included changes to the segregation table in 7.2.4 of the IMDG Code. Nevertheless, segregation provisions for general cargo ships are not considered in amendment 37-14, and agreed, in principle, to the proposed consequential amendments should be made to the segregation table in 7.6.3.5.2.

6.10 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Assignment of bulk containers (BK) Codes

6.11 The Sub-Committee considered document CCC 2/6/4 (Germany), proposing the harmonization of the provisions concerning transport in BK2 containers in the IMDG Code with those contained in the UN Model Regulations, which intended to delete the code BK2 in column 13 of the Dangerous Goods List for UN numbers 1402, 1446, 1469, 1485, 2211 and 3314. The Sub-Committee noted that these UN numbers were assigned the code BK2 although no bulk containers (BK) code is assigned to these substances in the UN Recommendations.

6.12 The Sub-Committee noted that in the past it has been very difficult to develop criteria for bulk packagings and that currently there are some uncertainties related to this provisions. On the other hand, it was generally acknowledged that the above proposal could provide a good opportunity to tackle the problem, and that inclusion of the substances (UN Nos.), contained in the document, need to be further discussed.

6.13 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Stowage codes for class 7 UN Numbers

6.14 The Sub-Committee considered document CCC 2/6/5 (Germany), proposing to delete the stowage code "SW 20" in column 16a of the dangerous goods list (DGL) for UN 3322 LSA-III material, because "SW 20" refers to uranyl nitrate hexahydrate solution but, according to 2.7.2.3.1.2 of the IMDG Code, LSA-III (Low specific activity (LSA) material) could only be solid. The document also proposed to add the stowage code "SW 21" to column 16a of the following UN Numbers for LSA material: 2912, 3321, 3322, 3324 and 3325, because "SW 21" refers to uranium metal pyrophoric and thorium metal pyrophoric which could also be classified as LSA material.

6.15 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Segregation of organometallic substances

6.16 The Sub-Committee considered document CCC 2/6/6 (CEFIC), proposing to include segregation requirements in chapter 7.2 on General Segregation Provisions regarding organometallic substances, UN 3391 to UN 3400, and noted that a draft new table in provision 7.2.6.3 of the Code was proposed in order to address the combined stowage of these substances with other substances which may represent a risk of reaction.

6.17 The Sub-Committee noted that since the substances involved in this proposal are compatible as a chemical family and these could not react when stowed with each other, segregation requirements may not be needed nevertheless, it was also noted that it is not only the chemical reaction between products that could be a risk, and that inappropriate segregation could be dangerous. In this context, it was agreed that, in order to further review this proposal, additional information was required, such as scientific evidence as per provision 7.2.6.3 of the Code.

6.18 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Stowage of goods of Class 1

6.19 The Sub-Committee considered document CCC 2/6/7 (United States), proposing to modify the existing stowage categories for transport of goods of Class 1 (provision 7.1.3.1),

which were adopted as part of amendment 36-12 and remained unchanged in amendment 37-14, and noted that these stowage categories were assigned by division becoming more restrictive, particularly stowage category 04, which requires shipment on deck in a closed cargo transport unit or under deck in a closed cargo transport unit, and that many of the items contained in these shipments are large and robust articles and are difficult to pack in a closed cargo transport unit, which has resulted in unnecessary delays and added expense.

6.20 The Sub-Committee noted that, in order to amend the stowage categories, the proposal would need a more systematic approach allowing to differentiate substances and articles in relation to compatibility groups.

6.21 After consideration, the Sub-Committee decided to refer this document to E&T 24 for further consideration, depending on time availability, with a view to advising CCC 3 accordingly.

Identification of marine pollutants

6.22 The Sub-Committee considered document CCC 2/6/9 (Republic of Korea), proposing to insert reference (P) in the dangerous goods list (DGL) of the Code to some marine pollutants, which were identified by the Republic of Korea in accordance with the GESAMP hazard profiles (PPR.1/Circ.1, annex 5) and to amend portable tank special provisions in the DGL (column 14) in accordance with provision 4.2.1.9.3.

6.23 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

6.24 In this context, the Sub-Committee also considered document CCC 2/6/10 (Republic of Korea), proposing to include in chapter 2.10 of the Code a reference to GESAMP hazard profiles in order to identify substances that fall under the marine pollutant classification.

6.25 After a comprehensive discussion, the Sub-Committee noted that the inclusion of a reference to GESAMP hazard profiles criteria within the IMDG Code could be useful as recommendatory information (i.e. footnote), considering that the formal proposal would need technical editorial improvement.

6.26 After consideration, the Sub-Committee decided to refer this document to E&T 24 for further consideration, depending on time availability, with a view to advising CCC 3 accordingly.

Introduction of the function of a safety adviser and related training provisions in Chapter 1.3 of the IMDG Code

6.27 The Sub-Committee considered document CCC 2/6/11 (Poland), presenting Poland's views regarding the inclusion of the function of a safety adviser within the Code, which described the positive advantages of using a safety adviser with the view to enhancing the level of safety of dangerous goods transport operations at sea.

6.28 The Sub-Committee noted that the introduction of a safety adviser in the context of non-declared and misdeclared dangerous goods was discussed at DSC 18 and E&T 20. It was concluded that it would not be appropriate to include the same regulations in the IMDG Code as those for European land transport, but that the problems could be addressed by improving the existing training provisions in the IMDG Code.

6.29 The Sub-Committee also noted that, for some Administrations, the experience of implementing a safety advisor system has had a positive result. Nonetheless, for other Member States that already have an effective system in place based on the existing requirements, it would be very difficult to support such legislative change by adding another layer of regulation.

6.30 Since the majority of the delegations expressed their concerns over unnecessary provisions and extra administrative burdens, the Sub-Committee agreed to focus on the improvement of the existing training provisions as referred to in the above.

6.31 In this context, the Sub-Committee also considered document CCC 2/6/2 (Germany), proposing additional development of the existing training provisions in chapter 1.3 of the Code in order to increase the level of compliance regarding non-declared and misdeclared dangerous goods, which set as an example the training requirements developed by the ICAO for the transport of dangerous goods by air; in particular, highlighting the need of high level of qualification of those persons involved in the transport of dangerous goods.

6.32 The Sub-Committee noted that there was a general agreement to improve the existing training provisions of the IMDG Code and that document CCC 2/6/2 proposes a general concept but not a draft of those concrete provisions.

6.33 The Sub-Committee further noted different views that some of the principles contained in the above proposal could be taken as a basis to develop a draft proposal ad hoc to the IMDG Code.

6.34 The Sub-Committee recognized that adding new technical training provisions in the Code may result in implementation problems for some Administrations and, therefore, the new draft provisions (when proposed) should not lead to any conflict with competent Authorities.

[6.35 In concluding, the Sub-Committee decided that E&T 24 could informally discuss the issue on the subject of improving the existing training provisions of the IMDG Code and advise CCC 3 of its views. The Sub-Committee also invited interested parties to submit comments and proposal to CCC 3.]

New special packing provision for sea transport

6.36 The Sub-Committee considered document CCC 2/6/12 (Germany), stating that E&T 23 noted that the wording of the new special packing provision B2 in intermediate bulk containers (IBC) does not correspond to the wording of B2 as used in other IBC instructions, and, due to time constraints, E&T 23 was not able to draft an appropriate text. The list of substances (UN Nos.) which would be subject to this amendment were shown in the annex to the document.

6.37 After consideration, the Sub-Committee agreed, in principle, to this proposal and decided to refer this document to E&T 24 for further consideration and inclusion, if appropriate, in the draft amendment 38-16 of the Code.

Transport of Radioactive Material

6.38 The Sub-Committee noted document CCC 2/INF.11 (Germany), informing on two German proposals submitted to the International Atomic Energy Agency (IAEA) for the current process of revision of the regulations for the safe transport of radioactive material (IAEA Safety Standards Series No. SSR-6), which referred to the radiation level for freight containers and Transport Index (TI) and Criticality Safety Index (CSI) limits in the context of seagoing vessels; and the stowage limits for a hold, compartment or defined deck area.

Portable tanks for the carriage of natural gas refrigerated liquid (UN No.1972)

6.39 The Sub-Committee noted document CCC 2/INF.15 (Japan), providing information on the provision (IMDG Part 3) for portable tanks for the carriage of natural gas refrigerated liquid (UN No.1972), which are carried solely by sea and road transport but not by railway transport

Transport of flammable, toxic powered metals and toxic, flammable powered metals

6.40 The Sub-Committee noted document CCC 2/INF.24 (France), providing information on the progress made on the issue of transport of toxic, flammable powered metals, the topic of which had been initiated by the submission of document CCC 1/6/2 in relation to the transport of Cobalt powder with a very low granulometry. It was also noted that France submitted a proposal to the 47th meeting of the UN TDG Sub-Committee (June 2015) under the reference UN/SCETDG/47/INF.34, which is missing some paragraphs (14 to 16) of the former proposal that are provided in document CCC 2/INF.24.

ESTABLISHMENT OF A DRAFTING GROUP

6.41 Following the discussions on the recommendations of E&T 23 (see paragraph 6.6.4), the Sub-Committee established a Drafting Group on Revision of DSC/Circ.12, and instructed it, taking into account the comments and decisions made in plenary and based on annex 3 to document CCC 2/6, to finalize the revision of DSC/Circ.12.

REPORT OF THE DRAFTING GROUP

6.42 Having considered the report of the Drafting Group (CCC 2/WP.6) on Revision of DSC/Circ.12, the Sub-Committee approved it, in general, and took action as indicated in the following paragraphs:

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

DRAFT AMENDMENT 38-16 OF THE IMDG CODE AND INSTRUCTIONS TO THE E&T GROUP**Instructions to the E&T Group**

6.43 The Sub-Committee authorized E&T 24 to finalize the draft amendments (38-16) to the IMDG Code, based on documents submitted to CCC 2 and taking into account comments made and decisions taken by the Sub-Committee, with a view to submitting the draft

amendments to MSC 96 for consideration and adoption (see paragraph 6.30); and to submit a written report to CCC 3.

6.44 The Sub-Committee requested the Secretary-General to circulate, in accordance with SOLAS article VIII, the draft amendments to the IMDG Code (consolidated replacement text), incorporating draft amendments as prepared by E&T 24, for consideration and subsequent adoption by MSC 96.

6.45 The Sub-Committee also instructed E&T 24 to finalize editorial corrections to amendment 37-14 of the Code (resolution MSC.372(93)) and requested the Secretariat to issue such editorial corrections before 1 January 2016, the date when amendment 37-14 enters into force.

6.46 The Sub-Committee further instructed E&T 24 to prepare related recommendations and circulars for submission to MSC 96 for approval, together with the adoption of amendments to the IMDG Code.

6.47 The Sub-Committee noted that the provisional agenda for E&T 24 was available as document E&T 24/1.

7 AMENDMENTS TO CSC 1972 AND ASSOCIATED CIRCULARS

Background

7.1 The Sub-Committee recalled that CCC 1 established the Correspondence Group on Implementation of a Global ACEP Database and instructed it to consider the issues listed in annex 1 to document CCC 1/WP.5 in order to determine to what extent they were barriers to the development and global usage of the ACEP database. The correspondence group was also instructed to develop possible solutions to the aforementioned issues.

Activity of the Global ACEP Database

7.2 The Sub-Committee considered document CCC 2/7/4 (BIC), providing a report of the activity of the Global ACEP Database since CCC 1, and expressed its appreciation to BIC for providing the update.

Report of the correspondence group

7.3 In considering the report of the correspondence group (CCC 2/7), the Sub-Committee noted the following views expressed on the group's proposed solutions for issues that could be acting as barriers to the development and global usage of the ACEP database:

- .1 the recommendations of the group, if agreed by the Sub-Committee, provide clarity regarding the structure and the operation of the Global ACEP Database;
- .2 it is not obvious how the solutions developed by the group addressed the individual issues identified and listed in annex 1 to document CCC 1/WP.5;
- .3 for the Global ACEP Database to become the universal resource for information regarding existing and future ACEP programmes, CSC 1972 should be amended to require all Contracting Parties to use the Global ACEP Database. Other delegations were of the view that amendments to CSC 1972 are not necessary since Administrations are already required to make information regarding their ACEPs publicly available, suggesting that the issue is one of implementation rather than a gap in the regulations;
- .4 an incomplete ACEP database loses much of its value and, if use of the Global ACEP Database does not become mandatory, a long time will be required to build up the information in the database to make it effective;
- .5 concerns were expressed by some delegations that issues of costs arising from the operation of the database still need to be resolved; while other delegations were of the view that the costs of hosting and managing the Global ACEP Database are low and covered by BIC, therefore, cost consideration should not be an obstacle to the use of the database by Administrations; and
- .6 the effects of a non-governmental entity managing data owned by Administrations, and the consequences if BIC were to withdraw its support, need further clarification, particularly in the case of the use of the Global ACEP database being mandatory. In this regard, BIC informed the Sub-Committee that

BIC has a proven track record in managing container-related information, considering that ISO has entrusted BIC with the exclusive management and allocation of an owner code according to ISO standard 6346 (Freight Containers-coding, identification and marking).

7.4 Having noted the work of the correspondence group and the views expressed above, the Sub-Committee approved the report in general and took action as indicated in paragraphs 7.5 to 7.17.

Proposed amendments to CSC 1972 and related circulars

7.5 Having noted the divergent views (see paragraph 7.3.3) with regard to recommendation of the group to amend CSC 1972, annex I, regulation 2, to require usage of the Global ACEP Database based on text to be discussed and agreed upon through a working group, the Sub-Committee decided not to amend CSC 1972.

7.6 Notwithstanding the above decision, the Sub-Committee agreed that the use of the Global ACEP Database should be encouraged, recognizing that significant progress has been achieved in reaching consensus on the issue of the database being managed by BIC.

7.7 Having considered annex 1 to document CCC 2/7, containing draft amendments to the *Revised Recommendations on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972 (CSC.1/Circ.138/Rev.1)* and the *Guidelines for development of an approved continuous examination programme (ACEP) (CSC.1/Circ.143)*, with the objective of informing Administrations that they should use the Global ACEP Database to make information on ACEPs publicly available, the Sub-Committee agreed, in principle, to the draft amendments, subject to the draft text being modified by the working group to reflect the decision of the Sub-Committee that the use of the Global ACEP database will not be mandatory, and the understanding that BIC would not be managing it on behalf of the Organization.

Information on ACEPs communicated to the Organization

7.8 The Sub-Committee agreed with the group's recommendation that Administrations should be requested to provide information to the Organization regarding their ACEPs, such as whether or not they have current ACEP programs; how many ACEP approvals have been issued under their respective programs; and whether the Administration has or will be uploading their ACEP data to the Global ACEP Database. However, having noted that the

group was undecided on how such information should be conveyed to the Organization, the Sub-Committee referred the matter to the working group for further consideration.

7.9 Subject to a satisfactory way forward being proposed by the working group on how Administrations should provide information on their ACEPs to the Organization, the Sub-Committee agreed that the Global ACEP Database should indicate which Administrations have ACEP programs and which of these Administrations have uploaded their ACEP data to the Global ACEP Database based on information communicated by Administrations to the Organization.

Proposal to convert the planned output on "Amendments to CSC 1972 and related circulars" to a continuous output

7.10 Having noted the recommendation of the group that items related to CSC 1972 should remain a standing item on the Sub-Committee's agenda, as well as the group's view that justification for an unplanned output would not be necessary in this case, the Sub-Committee recalled that, according to the Committees' guidelines, continuous outputs are discouraged, and decided not to request the Committee to approve the conversion of this output to a continuous one.

Proposed agreement between the Organization and BIC

7.11 With regard to the recommendation that the Organization be requested to enter into a Memorandum of Understanding (MoU) with BIC establishing an agreement concerning the development, maintenance, and operation of the Global ACEP Database, including periodic audits to be conducted by the Organization with the participation of interested Administrations and non-governmental organizations, the Sub-Committee agreed that this would be a matter for the Committees and the Council to consider, taking into account the fact that audits could have cost implications for the Organization and Member Governments that are not Contracting Parties to CSC 1972. Following discussion, the Sub-Committee decided not to pursue this recommendation of the correspondence group any further.

Proposed new CSC circular

7.12 Having considered annex 2 to document CCC 2/7, containing a draft CSC circular on Instructions for Use and Information concerning the Global ACEP Database, the Sub-Committee instructed the working group to finalize the draft CSC circular, taking into account earlier comments and decisions regarding maintenance, operation and periodic audits (see paragraph 7.11), as well as the non-mandatory use of the database (see paragraph 7.5).

7.13 With regard to annex 3 to document CCC 2/7, containing a draft Global ACEP Database User's Guide, the Sub-Committee requested BIC to keep the user's guide up to date and make it available on the website of the Global ACEP Database.

Restrictions to be applied to in-port transportation of overstowed containers

7.14 Having considered document CCC 2/7/1 (Islamic Republic of Iran), proposing proposes that the overstowing restrictions contained columns (iv) and (vi) of table 4.1 of annex III to CSC 1972 be applied to all modes of container transport within a port to ensure the safety of container handling and avoid possible accidents that may arise due to double-stacking, the Sub-Committee decided to forward the document to the working group for further consideration.

Restrictions to be applied in the case of transportation of double-stacked damaged containers

7.15 Having considered document CCC 2/7/2 (Islamic Republic of Iran), proposing that the overstowing restrictions contained in table 4.1 of annex III to CSC 1972 be reviewed, using statistical and simulation techniques, to ascertain their impact on the productivity and smooth operation of container terminals, with a view to providing appropriate solutions, the Sub-Committee decided to forward the document to the working group for further consideration.

Warning labels to indicate deficiencies in structurally sensitive components of containers

7.16 Following consideration of document CCC 2/7/3 (Islamic Republic of Iran), proposing that warning labels be designed for the purpose of easily detecting containers with severe deficiencies in structurally sensitive components and taking the required precautions when handling and dealing with such containers, the Sub-Committee decided to forward the document to the working group for further consideration.

Establishment of the Working Group on Container Safety

7.17 Having considered the above issues, the Sub-Committee established the Working Group on Container Safety and instructed it, taking into account the comments and decisions made in plenary, to:

- .1 finalize the draft amendments to CSC.1/Circ.138/Rev.1 and CSC.1/Circ.143, and the associated draft CSC circulars, based on annex 1 to document CCC 2/7;

- .2 consider the best way forward with regard to how Administrations should convey information on their ACEPs to the Organization and advise the Sub-Committee accordingly;
- .3 finalize the draft CSC circular on Instructions for Use and Information concerning the Global ACEP Database, based on annex 2 to document CCC 2/7, taking into account comments made in plenary on maintenance, operation and auditing; and
- .4 further consider documents CCC 2/7/1, CCC 2/7/2 and CCC 2/7/3 and advise the Sub-Committee accordingly.

Report of the Working Group on Container Safety

7.18 Having considered the part of the report of the Working Group on Container Safety (CCC 2/WP.4) related to this agenda item, the Sub-Committee approved it in general and took action as described in paragraphs 7.19 to 7.....

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

8 REVISED GUIDELINES FOR PACKING OF CARGO TRANSPORT UNITS

Background

8.1 The Sub-Committee recalled that MSC 94 approved the *Informative material related to the IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units* (MSC.1/Circ.1498) and MSC.1/Circ.1497 on the IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code).

8.2 The Sub-Committee also recalled that CCC 1 established the Correspondence Group on Development of Material for Promoting a Culture of Safety in the Supply Chain and instructed it to consider the roles of the participants within the supply chain and how they could effect a culture change. The group was also instructed to further develop aids, such as a due diligence/supplier checklist, to support participants in the supply chain in achieving the necessary culture change.

Report of the correspondence group

8.3 Having considered the report of the Correspondence Group on Development of Material for Promoting a Culture of Safety in the Supply Chain (CCC 2/8), the Sub-Committee approved the report in general and took action as indicated in paragraphs 8.4 to 8.7.

8.4 Following consideration of annex 1 to document CCC 2/8, containing a draft table of the roles of organizations within the transport supply chain involved in the process of packing CTUs, and, having noted the discussion of the group regarding cargo information, insurance matters and the function of Expert/Consultant organization/person, the Sub-Committee agreed that insurance matters should not be considered further due to the complexity of the issue.

8.5 Subsequently, the Sub-Committee decided to forward the table of roles to the Working Group on Container Safety, established under agenda item 7, for further consideration.

8.6 Following consideration of annex 2 to document CCC 2/8, containing a draft CCC circular on *Due diligence checklist in identifying providers of CTU-related services*, the Sub-Committee decided that the circular should be prepared as a draft MSC circular. In this regard, the Sub-Committee agreed that the draft MSC circular should incorporate the table of organizations within the transport supply chain involved in the process of packing CTUs considered previously, and instructed the Working Group on Container Safety to finalize the draft circular.

Instructions to the Working Group on Container Safety

8.7 Having considered the above matters, the Sub-Committee instructed the Working Group on Container Safety, established under agenda item 7 (Amendments to CSC 1972 and associated circulars), taking into account the comments and decisions made in plenary, to finalize the draft *Due diligence checklist in identifying providers of CTU-related services* (CCC 2/8, annex 2), and the associated MSC circular, incorporating the table of organizations within the transport supply chain involved in the process of packing CTUs (CCC 2/8, annex 1).

Report of the Working Group on Container Safety

8.8 Having considered the part of the report of the Working Group on Container Safety (CCC 2/WP.4) related to this agenda item, the Sub-Committee approved it in general and took action as described in paragraphs 8.9 to 8....

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

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

General

9.1 The Sub-Committee recalled that this item was introduced as a continuous output on its biennial agenda by MSC 78, so that IACS could submit any newly developed or updated unified interpretations for consideration by the Sub-Committee with a view to developing appropriate IMO interpretations, if deemed necessary.

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

Clarification of paragraph 8.2.18 of the IGC Code

9.3 The Committee had for its consideration document CCC 2/9 (IACS), proposing that the phrase "demonstrated by the Administration" in paragraph 8.2.18 of the IGC Code, with regard to the adequacy of the vent system fitted on tanks, should be understood as "approved by the Administration".

9.4 The Sub-Committee agreed that paragraph 8.2.18 of the IGC Code is understood to mean that arrangements are to be provided taking into account the recommendations developed by the Organization, and evidence of Administration approval of the arrangements will be by the issuance of a certificate by the Administration or a recognized organization acting on its behalf, which is to be kept on board the ship. In this regard, the Sub-Committee decided that the words "by the Administration" should be deleted in order to reflect that understanding.

9.5 Consequently, the Sub-Committee instructed the Secretariat to prepare a draft corrigendum to annex 6 of the report of MSC 93 (MSC 93/22/Add.1), deleting the words "by the Administration" in paragraph 8.2.18 of the IGC Code, with a view to incorporating the aforementioned modification into the authentic text of resolution MSC.370(93). The delegation of France confirmed that a corrigendum to the French version of the IGC Code is not required, while the delegation of Spain requested the Secretariat to ensure that a corresponding corrigendum is issued for the Spanish version, taking into account that the Spanish verb "acreditar" may have to be changed to its reflexive form.

IGC Code requirement for pump vents in machinery spaces

9.6 The Sub-Committee had for its consideration document CCC 2/9/1 (IACS), providing a copy of IACS UI GC14 regarding the requirements for pump vents in machinery spaces in paragraph 3.7.4 of the existing IGC Code (paragraph 3.7.5 of the IGC Code, as amended by resolution MSC.370(93)). According to the proposed unified interpretation, the requirement for pump vents not to be open to machinery spaces should apply only to pumps servicing dry duct keels through which ballast piping passes.

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

- .1 UI GC14 will be applied by IACS Societies not later than 1 July 2016, unless provided with written instruction to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization;
- .2 IACS UI GC14 is practicable and reflects current practice;
- .3 the main risk is associated with the lines connected to the ballast tanks, where a build-up of gas could occur, regardless of whether there is a dry or wet duct keel; therefore, it is the pumps that service ballast tanks that ought to be covered by the proposed unified interpretation and the issue of whether the lines cross dry duct keels is not relevant; and
- .4 further consideration is required with regard to where the risk is coming from, as well as across how many boundaries and at which boundaries leaks could potentially occur.

9.8 Taking the above comments into account, the Sub-Committee agreed to the following two unified interpretations:

- .1 the requirement for pump vents not to be open to machinery spaces should apply only to pumps servicing dry duct keels through which ballast piping passes; or

- .2 the requirement for pump vents not to be open to machinery spaces should apply to pumps servicing ballast tanks,

for submission to MSC 96.

9.9 Consequently, the Sub-Committee agreed to the draft Unified Interpretation on chapter 3 of the IGC Code and the associated draft MSC circular, as set out in annex [...], and invited MSC 96 to consider the text in square brackets and decide as appropriate. The Sub-Committee also invited interested Member Governments and international organizations to submit comments and proposals to MSC 96 on this matter in order to aid the deliberations of the Committee.

IGC Code requirements for cargo piping and sizing of pressure relief valves

9.10 The Sub-Committee considered document CCC 2/9/2 (Japan), proposing three unified interpretations to the following three paragraphs of the IGC Code, as amended by resolution MSC.370(93):

- .1 5.2.2.1.5 regarding the volume V_c for the purpose of determination of protective distance for cargo piping systems (CCC 2/9/2, paragraph 5);
- .2 5.12.3.1 regarding the meaning of the term "cold surfaces" in the context of cargo piping insulation (CCC 2/9/2, paragraph 8); and
- .3 8.4.1 on the meaning of the parameter L_{min} in calculating the external surface area of a prismatic tank for the purpose of determining the size of pressure relief valves (CCC 2/9/2, paragraph 11).

9.11 The Sub-Committee could not agree to the proposed interpretation of paragraph 5.2.2.1.5 of the IGC Code.

9.12 With regard to the proposed unified interpretation of paragraph 5.12.3.1 of the IGC Code, the Sub-Committee noted the the following views expressed on this matter:

- .1 the proposed definition of "cold surfaces" introduces vague terms, such as "a few seconds" and "naturally ice-frosted", which require further clarification; and

- .2 the meaning of the words "as required" in paragraph 5.12.3.1 may also need to be clarified through a unified interpretation.

9.13 Taking the above views into account, the Sub-Committee could not agree to the proposed unified interpretation of paragraph 5.12.3.1.

9.14 With regard to paragraph 8.4.1 of the IGC Code, the Sub-Committee acknowledged that "Lmin" ought to be defined but could not agree to the proposed unified interpretation, as set out in paragraph 11 of document CCC 2/9/2, particularly on whether the minimum or the maximum longitudinal and transverse length should be used. Subsequently, the Sub-Committee invited interested Member Governments and international organizations to submit written proposals on the matter to CCC 3.

IGC Code requirements for fire integrity of wheelhouse windows, side-scuttles and doors

9.15 The Sub-Committee considered document CCC 2/9/3 (IACS), requesting clarification on the following issues, regarding the relevant provisions of the IGC Code, as amended by resolution MSC.370(93), with respect to the applicable fire integrity of wheelhouse windows, side-scuttles and doors:

- .1 whether the applicable range of "not less than A-0 class" wheelhouse windows specified in paragraph 3.2.5 of the IGC Code, as amended by resolution MSC.370(93), should be interpreted as falling within the limits specified in paragraph 3.2.4.2 of the IGC Code (i.e. facing the cargo area and on the sides at a distance of at least 4% of the length of the ship but not less than 3 m from the end facing the cargo area) rather than the entire wheelhouse;
- .2 concerns, from a fire engineering perspective, with regard to requiring fire-rated windows to be fitted into non fire-rated doors; and
- .3 difficulties confirming the availability of A-0 "clear view" screens for use in wheelhouses.

9.16 Taking into account that the availability of A-0 "clear view" screens for use in wheelhouses cannot be confirmed, and the fact that the relevant SOLAS requirements for fire-rated windows on tankers do not apply to wheelhouse windows, the Sub-Committee

decided that the best way forward is to align the requirements of the IGC Code with those in SOLAS chapter II-2.

9.17 Consequently, the Sub-Committee agreed to the draft amendments to paragraph 3.2.5 of the IGC Code, as set out in annex [...], for submission to MSC 96, with a view to approval and subsequent adoption. Taking into account the new four-year amendment cycle agreed by MSC 93 (MSC.1/Circ.1481), the Committee was invited to take into account the imminent entry into force of the amendments annexed to resolution MSC.370(93) and the potential for industry to be unable to meet the requirement for A-0 fire-rated wheelhouse windows, when considering the entry into force of the proposed amendments.

[10 CONSIDERATION OF REPORTS OF INCIDENTS INVOLVING DANGEROUS GOODS OR MARINE POLLUTANTS IN PACKAGED FORM ON BOARD SHIPS OR IN PORT AREAS

General

10.1 The Sub-Committee recalled that CCC 1 had expressed its appreciation to Member Governments for submitting the results of container inspection programmes and had requested them to continue to submit such reports in accordance with MSC.1/Circ.1442.

Inspection programmes for cargo transport units carrying dangerous goods

10.2 The Sub-Committee noted documents CCC 2/10 (Sweden), CCC 2/10/1 (Belgium), CCC 2/10/2 (United States) and CCC 2/10/3 (Republic of Korea), reporting the results of container inspection programmes; and document CCC 2/INF.25 (Secretariat), containing the consolidated results. The Sub-Committee was informed that, among 54,195 CTUs inspected, 4,441 were found with deficiencies, which means 8.19% of the CTUs inspected had deficiencies. Total deficiencies were 5,223. As to type of deficiencies, placarding and marking accounts for 60%, followed by securing/stowage inside the unit (16%) and documentation (13%).

10.3 In this respect, the Sub-Committee expressed its appreciation to those States that submitted results of container inspection programmes and its concern about the high rate of deficiencies and the lack of adherence to the provisions of the IMDG Code.

10.4 Subsequently, the Sub-Committee invited Member Governments to continue submitting such reports and urged Member States which have not yet carried out container inspection programmes to do so and to submit the relevant information to the Organization in accordance with MSC.1/Circ.1442.]

11 MANDATORY REQUIREMENTS FOR CLASSIFICATION AND DECLARATION OF SOLID BULK CARGOES AS HARMFUL TO THE MARINE ENVIRONMENT

General

11.1 The Sub-Committee recalled that MSC 95 had adopted amendments (03-15) to the IMSBC Code, by resolution MSC.393(95), including those amendments related to substances harmful to the marine environment (HME), as recommendatory, based on the decisions of MEPC 68.

11.2 The Sub-Committee also recalled that MEPC 68 had agreed that the classification criteria for HME and the shipper's declaration of solid bulk cargoes, as to whether or not they were harmful to the marine environment, which is currently the *2012 Guidelines for implementation of MARPOL Annex V* (resolution MEPC.219(63)), should be made mandatory.

11.3 The Sub-Committee further recalled that MEPC 68 had agreed to add a new output on "Mandatory requirements for classification and declaration of solid cargoes as harmful to the marine environment" in the biennial agenda of the CCC Sub-Committee and the provisional agenda for CCC 2, which was concurrently agreed by MSC 95.

Amendments to MARPOL Annex V, the IMSBC Code and consequential amendments to other instruments

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

- .1 CCC 2/11/1 (Norway), proposing amendments to MARPOL Annex V to establish the legal link with the IMSBC Code, containing a new definition for the IMSBC Code and a new regulation 11, and requiring the mandatory classification and declaration of solid cargoes. The document also proposed the inclusion of two new appendices (II and III) in MARPOL Annex V to establish criteria for the classification of cargo residues as harmful to the marine environment and for the classification of cleaning agents or additives as harmful to the marine environment;
- .2 CCC 2/11/2 (Finland), proposing to amend MARPOL Annex V, to make the IMSBC Code mandatory under MARPOL, and to amend the IMSBC Code in order to make the classification criteria for HME and the shipper's declaration of solid bulk cargoes, as to whether or not they are harmful to the marine environment, legally mandatory. The proposed amendments to MARPOL

Annex V contained a new chapter 4 on "Classification and information on solid bulk cargoes as to whether or not they are harmful to the marine environment", to make the HME classification criteria mandatory, as contained in the relevant paragraphs of the 2012 Guidelines. The new chapter requires the shipper to provide the master or his/her representative with information on whether or not solid bulk cargoes are harmful to the marine environment in accordance with section 4 of the IMSBC Code; and

- .3 CCC 2/11/3 (Japan), providing comments on document CCC 2/11/1, in particular expressing the view that the proposed amendments to MARPOL Annex V should be limited to the instructions of MEPC 68, taking into account that issues related to cleaning agents are not under the purview of this Sub-Committee. Japan also stressed the need to consider consequential amendment to the IMSBC Code and to the 2012 Guidelines for the implementation of MARPOL Annex V.

11.5 Having considered the above documents and following the discussion, the Sub-Committee agreed that the IMSBC Code should not be made mandatory under MARPOL Annex V. Notwithstanding the above decision, the Sub-Committee agreed that draft amendments to MARPOL Annex V should be developed to make mandatory the classification criteria for HME and the shipper's declaration of solid bulk cargoes as to whether or not they were harmful to the marine environment, using proposed draft amendments in document CCC 2/11/1 as a basis. In this respect, the Sub-Committee noted that the proposed classification criteria for cleaning agents (CCC 2/11/1, annex 3) was outside the scope of work given to the Sub-Committee, since it was not instructed by MEPC 68 to take action on matters related to cleaning agents.

11.6 The Sub-Committee agreed that, by amending MARPOL Annex V, consequential amendments to the IMSBC Code and to the 2012 Guidelines would be necessary (i.e. relevant provisions to HME in the IMSBC Code and paragraphs 3.2 and 3.4 of the 2012 Guidelines should be amended) and decided to instruct the working group to develop the above consequential amendments accordingly.

11.7 Having considered the above issues, the Sub-Committee noted the concerns expressed by the observer from INTERCARGO that the HME provisions of MARPOL Annex V are not yet properly implemented as the provision of shore reception facilities for cargoes

declared as harmful to the marine environment remain inadequate. It was recognized that the assistance offered to the industry by MEPC.1/Circ.810 expires on the 31 December this year. It was also noted that shipowners have experienced that port facilities for reception of HME cargo residues and cargo hold washing water are not yet available to the extent that reasonably uninterrupted trade can continue.

Instructions to the working group

11.8 Subsequently, the Sub-Committee instructed the Working Group on IMSBC Code Matters, established under item 5 (see paragraph 5...), taking into account the comments and decisions made in plenary, to:

- .1 prepare the draft amendments to MARPOL Annex V and consider the consequential amendments to the IMSBC Code and to the 2012 Guidelines, based on document CCC 2/11/1, and
- .2 consider whether it is necessary to establish a correspondence group and, if so, prepare terms of reference for consideration by the Sub-Committee.

Report of the working group

11.9 Having considered the part of the report of the working group (CCC 2/WP.5) related to this item, the Sub-Committee took action as indicated in the following paragraphs.

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

[12 BIENNIAL AGENDA AND PROVISIONAL AGENDA FOR CCC 3

Outcome of MEPC 68, MSC 95 and C 114

12.1 The Sub-Committee recalled that MEPC 68 and MSC 95 agreed the proposals for the High-level Action Plan of the Organization and priorities for the 2016-2017 biennium (MSC 95/22, annex 22), which were consequently endorsed by C 114, and requested the Secretariat to submit any changes to the proposals emanating from CCC 2 to CWGSP 14 or C/ES.28, as appropriate.

Biennial status report and proposed biennial agenda for the 2016-2017 biennium

12.2 Taking into account the progress made at the session, the Sub-Committee prepared the biennial status report (CCC 2/WP.2, annex 1) and the proposed biennial agenda for the 2016-2017 biennium (CCC 2/WP.2, annex 2), as set out in annexes [...] and [...], respectively, for submission to CWGSP 14 or C/ES.28, as appropriate, and for approval by A 29, MEPC 69 and MSC 96, as appropriate.

Proposed provisional agenda for CCC 3

12.3 Taking into account the progress made at the session, the Sub-Committee prepared the proposed provisional agenda for CCC 3 (CCC 2/WP.2, annex 3), as set out in annex [...], for approval by MEPC 69 and MSC 96.

Correspondence groups established at the session

12.4 The Sub-Committee established correspondence groups on the following subjects, due to report to CCC 3:

[to be completed by the Secretariat after the session]

Arrangements for the next session

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

[to be completed by the Secretariat after the session],

whereby the Chairman, taking into account the submissions received on the respective subjects, would advise the Sub-Committee before CCC 3 on the final selection of such groups.

Intersessional meetings

12.6 Having noted that MSC 95 approved the following intersessional meetings, which were also endorsed by C 114:

- .1 the twenty-fourth meeting of the E&T Group for the IMDG Code, to be held from 21 to 25 September 2015, directly after CCC 2, and
- .2 the twenty-fifth meeting of the E&T Group for the IMBSC Code, to take place in the first half of 2016,

the Sub-Committee invited MEPC 69 and MSC 96 to approve the twenty-sixth meeting of the E&T Group for the IMSBC Code, to be held directly after CCC 3.

Date of the next session

12.7 The Sub-Committee noted that the third session of the Sub-Committee has been tentatively scheduled to take place from 12 to 16 September 2016.

Urgent matters to be considered by MSC 96

12.8 The Sub-Committee, having noted the close proximity between CCC 3 and MSC 97, invited the Committee to agree that MSC 97 would consider only the following urgent matters emanating from CCC 3, with the remainder being considered by MSC 98:

- .1 Amendments to the IGF Code and development of guidelines for low-flashpoint fuels (5.2.1.2);
- .2 Safety requirements for carriage of liquefied hydrogen in bulk;
- .3 Mandatory requirements for classification and declaration of solid bulk cargoes as harmful to the marine environment; and
- .4 Matters related to liquefaction of solid bulk cargoes.]

13 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2016

13.1 In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mr. X. Hui (China) as Chairman and Mr. P. Van Lancker (Belgium) as Vice-Chairman, both for 2016.

14 ANY OTHER BUSINESS

Rectification of the IGC Code

14.1 The Sub-Committee considered document CCC 2/14/1 (Japan and SIGGTO), suggesting that paragraphs 7.8.4, 13.6.11 and 16.9.5 of the IGC Code, as amended by resolution MSC.370(93), erroneously require vent outlets from the leak detection system, discharge points of exhaust gas, and ventilation inlets/outlets, to be located in a non-hazardous area. It is proposed that the aforementioned paragraphs should be modified to require the discharge of exhaust gases in a "safe location" rather than a non-hazardous area, taking into account that those persons do not wear a breathing apparatus in non-hazardous areas and sources of ignition are not eliminated.

14.2 Having considered the above document, the Sub-Committee agreed that the modifications proposed by Japan and SIGGTO would rectify an error in the text of the IGC Code, which should be resolved before the amendments adopted by resolution MSC.370(93) enter into force on 1 January 2016.

14.3 Consequently, the Sub-Committee instructed the Secretariat to prepare a corrigendum to annex 6 of the report of MSC 93 (MSC 93/22/Add.1) with the modifications proposed in paragraphs 5.1 and 5.2 of document CCC 2/14/1, with a view to also incorporating the aforementioned modifications into the authentic text of resolution MSC.370(93).

[Text of chapter 5 of the draft OSV Chemical Code

14.4 The Sub-Committee recalled that SDC 2, having noted that chapter 5 of the draft OSV Chemical Code, as reproduced in annex 2 to document SDC 2/24 (Secretariat), is on cargo transfer, agreed to refer this chapter to SSE 2 and CCC 2 for consideration and advice to PPR 3 accordingly.

14.5 The Sub-Committee also recalled that SSE 2 generally agreed to the text of chapter 5 of the draft OSV Chemical Code but noted that:

- .1 the colour codes set out in paragraph 5.7.4 might differ from the codes used in national standards; and
- .2 there was no unanimous support to the text proposed in paragraph 5.5.2.

14.6 The Sub-Committee further recalled that SSE 2 agreed to delete paragraph 5.7.4 of chapter 5 of the draft OSV Chemical Code, with a view to avoiding possible conflict with the existing standards, and retain the text in the remaining paragraphs (including paragraphs in square brackets). SSE 2 invited the PPR Sub-Committee to note the above decision and also invited interested Member Governments and international organizations to submit comments and proposals on the text in paragraph 5.5.2 to PPR 3.

14.7 Having considered annex 2 to document SDC 2/24, the Sub-Committee [did not agree] [agreed] to the text of chapter 5 of the draft OSV Chemical Code, including the modifications agreed at SSE 2, and instructed the Secretariat to advise PPR 3 accordingly.

Revision of ISO 1161 (Series 1 freight containers – Corner fittings – Specifications) and ISO 3874 (Series 1 freight containers – Handling and securing)

14.8 The Sub-Committee recalled that DSC 18 had requested ISO to revise ISO 3874, taking into account the report of the Lashing@sea project.

14.9 In this regard, the Sub-Committee had for its consideration document CCC 2/14 (ISO), reporting on the progress of the revision of ISO standards 1161 and 3874 in regard to the equipment used on board ships to secure containers, in particular that:

- .1 ISO 1161 has been completely revised in order to incorporate the most recent parameters from handling and securing equipment, and should be available in early 2016;
- .2 work on revising ISO 3874 is progressing well and the review of the strength requirements of lashing gear and securing devices is taking account of the latest generation of container ships with design capacity in excess of 18,000 TEU; and
- .3 the new issue of ISO 3874 will include design and strength characteristics for automatic twistlocks.

14.10 The Sub-Committee noted with appreciation the information provided by ISO and invited ISO to keep the Sub-Committee updated on progress and when the work is complete, as appropriate.

Preventing the use of counterfeit refrigerants

14.11 The Sub-Committee noted the information in document CCC 2/14/2 (IICL), providing an update on the Industry's Informal Correspondence Group for the Development of best practices for preventing the use of counterfeit refrigerants, chaired by IICL.

14.12 In particular, the Sub-Committee noted that:

- .1 the ASHRAE Report on R40 contamination of refrigerants was recently completed and is currently being reviewed by various industry organizations;

- .2 the Industry's Informal Correspondence Group for the Development of best practices for preventing the use of counterfeit refrigerants will resume its work following the completion of the review; and
- .3 the proposed "POSSIBLE STEPS TO REDUCE THE RISK OF R-40 CONTAMINATION IN REFRIGERATED CONTAINER MACHINERY", as outlined in document DSC 18/5/1 (IICL), remain relevant.

Verification of the gross mass of a container carrying cargo

14.13 The Sub-Committee noted the information in documents CCC 2/INF.14 (WSC) and CCC 2/14/3 (CEFIC) regarding separate industry guidelines that have been developed by WSC and CEFIC/CLECAT/ESC/GSF, independently of each other, on the subject of implementation of the SOLAS requirements for the verification of the gross mass of container carrying cargo, which are due to enter into force on 1 July 2016 following the adoption of amendments to SOLAS regulation VI/2 at MSC 94 (resolution MSC.380(94)).

Maritime transportation of Natural Gas Hydrate using tank containers

14.14 The Sub-Committee noted the information in document CCC 2/INF.17 (Republic of Korea) on transportation technology for natural gas hydrate using tank containers, currently at the research stage, being put forward as a technical solution for reducing the cost of establishing a mid-stream supply chain necessary for the development of small- and mid-sized gas fields.

High Manganese Steel for Cryogenic Applications

14.15 The Sub-Committee noted the information in document CCC 2/INF.18 (Republic of Korea) on the results of a feasibility study on high manganese austenitic steel, a material that could be used for cryogenic applications such as cargo tanks, fuel tanks and piping of LNG carriers and LNG-fuelled ships.]

Expressions of appreciation

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

- Captain Moin Ahmed (IMO) (on transfer)
- Mrs. Dany Broderick-Bunn (IMO) (on retirement)
- Mr. Jo Espinoza-Ferry (IMO) (on retirement)
- Captain Mario Rubén Farinón (Argentina) (on transfer)
- Mr. Sylvain Lachance (Canada) (on retirement)
- Mr. Guangling Li (China) (on return home)
- Mr. Pedro San Miguel (IMO) (on retirement)
- Mr. Bin Okamura (Japan) (on retirement)
- Ms. Olga O'Neil (IMO) (on retirement)
- Mr. Carlos Ormaechea (IMO) (on retirement)
- Ms. Wilma Pereira (IMO) (on retirement)
- Captain Charlie Piersall (ISO) (on retirement)
- Ms. Janet Tang (IMO) (on retirement)
- Mr. Andrew Winbow (IMO) (on retirement)

15 ACTION REQUESTED OF THE COMMITTEES

15.1 The Marine Environment Protection Committee, at its sixty-ninth session, is invited to:

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

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

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

ANNEXES

[to be prepared by the Secretariat after the session]]

ANNEX [...]*

DRAFT AMENDMENTS TO IGC CODE, AS AMENDED BY RESOLUTION MSC.370(93)**

**CHAPTER 3
SHIP ARRANGMENTS**

3.2 Accommodation, service and machinery spaces and control stations

In paragraph 3.2.5, the words "Wheelhouse windows shall be constructed to not less than "A-0" class (for external fire load)." are deleted.

* The appendix to this annex will be translated into French and Spanish after CCC 2.
** Date of entry into force to be decided by the Committee.

APPENDIX 1

**MONITORING SHEET AND RECORDS FOR THE DRAFT AMENDMENTS
TO THE IGC CODE, AS AMENDED BY RESOLUTION MSC.370(93)**

PROCESS MONITORING

1	The Sub-committee, at an initial engagement, determined the allocation of sufficient time for technical research and discussion before the target completion date. Especially, for issues needed to be addressed by more than one sub-committee, timing of meetings of relevant sub-committees and exchanges of the result of consideration were carefully examined.	N/A
2	The scope of application agreed at the proposal stage was not changed without approval of the Committee.	N/A
3	The technical base document/draft amendment addressed the proposal's issue(s) through the suggested instrument(s) and, if not, the Sub-committee offered an alternative method to the Committee for addressing the problem raised by the proposal.	N/A
4	Due attention was paid to the <i>Interim guidelines for the systematic application of the grandfather clause</i> (MSC/Circ.765).	X
5	All references have been examined against the text that would be valid if the proposed amendment enters into force.	X
6	The location of the insertion or modified text is correct for the text that would be valid when the proposed text enters into force on a four-year cycle of entry-into-force date, as other relevant amendments adopted might enter into force on the same date.	X
7	There are no inconsistencies in the scope of application between the technical regulation and application statement of the relevant chapter that may be given in regulation 1 or 2, and application is specifically addressed for existing and/or new ships, as necessary.	N/A
8	If a new term is introduced in a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	N/A
9	Consideration is given when any of the terms "fitted", "provided", "installed" or "installation" are used with a view to providing a clear understanding of the intended meaning of the term.	N/A
10	All necessary related and consequential amendments to the forms of certificates and records of equipment and other instruments, including non-mandatory instruments forms required in the instrument being amended, have been examined and were included as part of the proposed amendments.	N/A
11	The forms of certificates and records of equipment are harmonized, where appropriate, between the Convention and its Protocols.	N/A
12	Confirm that an amendment is carried out on currently valid text and that no other bodies are concurrently making change proposals to the same text.	X
13	Ensure that all entry-into-force criteria (contract, keel laying and delivery) are considered and addressed.	N/A

14	Other impacts of the implementation of the proposed/approved amendment are fully analysed.	X
15	Amendments presented for adoption clearly indicate changes made with respect to the original text in order to facilitate their consideration.	X

APPENDIX 2

RECORDS FOR REGULATORY DEVELOPMENT

1	Title (number and title of regulation(s))
	Proposed amendments to the IGC Code, as amended by resolution MSC.370(93) paragraph 3.2.5 of the IGC Code
2	Origin of the requirement (original proposal document)
	CCC 2/9/3 (IACS)
3	Main reason of the development (extract of the proposal document)
	<p>CCC 2/9/3 (IACS) (paragraphs 3 to 7)</p> <p>According to SOLAS regulation II-2/4.5.2.3, windows and side scuttles facing the cargo area and on the sides of the superstructures and deckhouses within the limits specified in SOLAS regulation II-2/4.5.2.1 are to be constructed to "A-60" or "A-0" class standard. This requirement does not apply to the wheelhouse windows.</p> <p>According to the first sentence of paragraph 3.2.5 of the revised IGC Code, no fire integrity is specified for windows and side scuttles that do not fall within the limits specified in paragraph 3.2.41 (see figure 2 in the annex). However, while this requirement does not apply to wheelhouse windows, in the second sentence of paragraph 3.2.5 of the revised IGC Code, it specifies that "wheelhouse windows shall be constructed to not less than "A-0" class (for external fire load)".</p> <p>A literal reading of these provisions would appear to indicate that "not less than A-0 class" windows (and side scuttles) are required for the entire wheelhouse. However, since no fire integrity is required for the windows in the aft portion of superstructures and deck houses below the wheelhouse, where the risk of fire would be considered greater; IACS believes it would be appropriate that the applicable range of "not less than A-0 class" wheelhouse windows is the same as the first sentence of paragraph 3.2.5 of the new IGC Code i.e. within the limits specified in paragraph 3.2.4.</p> <p>In addition to the analysis provided above, IACS also notes the provisions of paragraphs 3.2.4.2 and 3.2.5 of the revised IGC Code, which require any wheelhouse door fitted within the limits specified in paragraph 3.2.4, to be gas and vapour tight (though the door could be of wood or aluminium etc. construction) and any windows fitted therein are to be "not less than A-0 class". IACS is of the view that this is technically incorrect. Fitting an A-0 fire glass unit in an un-fire rated door would mean that the door could simply collapse and cause failure of the A-0 glass unit.</p> <p>Finally, the Sub-Committee is invited to note that IACS cannot confirm the availability of A-0 "clear view" screens for use in wheelhouses; and SOLAS does not require oil tankers to be fitted with fire resisting windows in the wheelhouse.</p>

4	History of the discussion (approval of the work programmes, sessions of the sub-committees, including CG/DG/WG arrangements)
See CCC 1/WP.1, section 9	
5	Impact on the other instruments (e.g. codes, performance standards, guidance circulars, certificates/records format, etc.)
None	
6	Technical background
6.1	Scope and objective (to cross check with items 4 and 5 in part II of the checklist)
Clarification on Issues regarding the provisions of the IGC Code, as amended by resolution 370.(93), with respect to the applicable fire integrity of wheelhouse windows, side-scuttles and doors.	
6.2	Technical/operational background and rationale (summary of FSA study, etc., if available or, engineering challenge posed, etc.)
<p>SOLAS regulation II-2/4.5.2.3 regarding fire-rating of windows and side-scuttles facing the cargo area on tankers does not apply to wheelhouse windows.</p> <p>The second sentence of paragraph 3.2.5 of the revised IGC Code specifies that "wheelhouse windows shall be constructed to not less than "A-0" class (for external fire load)". A literal reading of paragraph 3.2.5 would appear to indicate that "not less than A-0 class" windows (and side scuttles) are required for the entire wheelhouse.</p> <p>The provisions of paragraphs 3.2.4.2 and 3.2.5 of the revised IGC Code, which require any wheelhouse door fitted within the limits specified in paragraph 3.2.4, to be gas and vapour-tight (though the door could be of wood or aluminium etc. construction) and any windows fitted therein are to be "not less than A-0 class". IACS is of the view that this is technically incorrect. Fitting an A-0 fire glass unit in an un-fire rated door would mean that the door could simply collapse and cause failure of the A-0 glass unit.</p> <p>IACS cannot confirm the availability of A-0 "clear view" screens for use in wheelhouses; and SOLAS does not require oil tankers to be fitted with fire resisting windows in the wheelhouse.</p>	
6.3	Source/derivation of the requirement (non-mandatory instrument, industry standard, national/regional requirement)
SOLAS regulation II-2/4.5.2.3	

6.4 Short summary of the requirement (what is the new requirement – in short and lay terms)

Purpose of proposed IGC Code amendments

Alignment of the IGC Code with SOLAS with regard to fire-rating of wheelhouse windows

6.5 Points of discussions (controversial points and conclusion)

Taking into account that the availability of A-0 "clear view" screens for use in wheelhouses cannot be confirmed, and the fact that the relevant SOLAS requirements for fire-rated windows on tankers do not apply to wheelhouse windows, CCC 2 decided that the best way forward is to align the requirements of the IGC Code with those in SOLAS chapter II-2.

CCC 2 agreed to the draft amendments to paragraph 3.2.5 of the IGC Code, for submission to MSC 96 with a view to approval and subsequent adoption. Taking into account the new four-year cycle agreed by MSC 93 (MSC.1/Circ.1481), CCC 2 invited the Committee to take into account the imminent entry into force of the amendments annexed to resolution MSC.370(93) (i.e. less than a year after CCC 2) and the potential for industry to be unable to meet the requirement for A-0 fire-rated wheelhouse windows, when considering the entry into force of the proposed amendments.
