



SUB-COMMITTEE ON BULK LIQUIDS
AND GASES
14th session
Agenda item 17

BLG 14/17
12 March 2010
Original: ENGLISH

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

Table of contents

Section	Page No.
1 GENERAL	4
2 DECISIONS OF OTHER IMO BODIES	6
3 EVALUATION OF SAFETY AND POLLUTION HAZARDS OF CHEMICALS AND PREPARATION OF CONSEQUENTIAL AMENDMENTS	6
4 APPLICATION OF THE REQUIREMENTS FOR THE CARRIAGE OF BIO-FUELS AND BIO-FUEL BLENDS	10
5 DEVELOPMENT OF GUIDELINES AND OTHER DOCUMENTS FOR UNIFORM IMPLEMENTATION OF THE 2004 BWM CONVENTION	14
6 DEVELOPMENT OF PROVISIONS FOR GAS-FUELLED SHIPS	20
7 CASUALTY ANALYSIS	24
8 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS	25
9 DEVELOPMENT OF INTERNATIONAL MEASURES FOR MINIMIZING THE TRANSFER OF INVASIVE AQUATIC SPECIES THROUGH BIO-FOULING OF SHIPS	25
10 REVISION OF THE IGC CODE	29
11 SAFETY REQUIREMENTS FOR NATURAL GAS HYDRATE PELLET CARRIERS	30
12 REVIEW OF RELEVANT NON-MANDATORY INSTRUMENTS AS A CONSEQUENCE OF THE AMENDED MARPOL ANNEX VI AND THE NO _x TECHNICAL CODE	31

Section	Page No.
13 REVISION OF THE RECOMMENDATIONS FOR ENTERING ENCLOSED SPACES ABOARD SHIPS	40
14 WORK PROGRAMME AND AGENDA FOR BLG 15	41
15 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2011	43
16 ANY OTHER BUSINESS	43
17 ACTION REQUESTED OF THE COMMITTEES	46

LIST OF ANNEXES

ANNEX 1	CARGO CLEANING ADDITIVES EVALUATED AND FOUND TO MEET THE REQUIREMENTS OF REGULATION 13.5.2 OF MARPOL ANNEX II
ANNEX 2	DRAFT TEXT FOR THE PROPOSED REGULATION TO PROHIBIT THE BLENDING OF MARPOL CARGOES ON BOARD DURING THE SEA VOYAGE
ANNEX 3	FRAMEWORK FOR DETERMINING WHEN IT IS APPROPRIATE TO USE THE BASIC APPROVAL GRANTED TO ONE BALLAST WATER MANAGEMENT SYSTEM FOR ANOTHER SYSTEM USING THE SAME ACTIVE SUBSTANCE OR PREPARATION
ANNEX 4	GUIDANCE FOR ADMINISTRATIONS ON THE TYPE APPROVAL PROCESS FOR BALLAST WATER MANAGEMENT SYSTEMS IN ACCORDANCE WITH GUIDELINES (G8)
ANNEX 5	PROVISIONAL TERMS OF REFERENCE FOR THE BALLAST WATER AND BIO-FOULING WORKING GROUP TO BE ESTABLISHED AT BLG 15
ANNEX 6	ACTION PLAN FOR UNIFORM IMPLEMENTATION OF THE BWM CONVENTION
ANNEX 7	JUSTIFICATION FOR THE EXPANSION OF THE SCOPE OF THE WORK ON DEVELOPMENT OF PROVISIONS FOR GAS-FUELLED SHIPS TO INCLUDE SHIPS FUELLED BY LOW FLASH-POINT LIQUID FUELS
ANNEX 8	DRAFT MSC CIRCULAR ON INTERIM GUIDELINES FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING NATURAL GAS HYDRATE PELLETS (NGHP) IN BULK
ANNEX 9	DRAFT REVISED GUIDELINES FOR MONITORING THE WORLDWIDE AVERAGE SULPHUR CONTENT OF FUEL OILS SUPPLIED FOR USE ON BOARD SHIPS

- ANNEX 10 BIENNIAL AGENDA AND POST-BIENNIAL AGENDA OF THE
BLG SUB-COMMITTEE
- ANNEX 11 PROPOSED PROVISIONAL AGENDA FOR BLG 15
- ANNEX 12 REPORT ON THE STATUS OF PLANNED OUTPUTS
- ANNEX 13 JUSTIFICATION FOR AN UNPLANNED OUTPUT ON “FIXED DECK
FOAM SYSTEMS FOR SHIPS CARRYING LIQUID SUBSTANCES LISTED
IN THE IBC CODE” OF THE BIENNIAL AGENDA

GENERAL

1.1 The Sub-Committee on Bulk Liquids and Gases held its fourteenth session from 8 to 12 February 2010 under the chairmanship of Mr. S. Oftedal (Norway). The Vice-Chairman, Mr. Renping Zhang (China), was also present.

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

ALGERIA	MALAYSIA
ANGOLA	MALTA
ARGENTINA	MARSHALL ISLANDS
AUSTRALIA	MOROCCO
BAHAMAS	NETHERLANDS
BELGIUM	NEW ZEALAND
BOLIVIA (PLURINATIONAL STATE OF)	NORWAY
BRAZIL	PANAMA
CANADA	PHILIPPINES
CHILE	POLAND
CHINA	REPUBLIC OF KOREA
COOK ISLANDS	ROMANIA
CUBA	RUSSIAN FEDERATION
CYPRUS	SAUDI ARABIA
DENMARK	SINGAPORE
ESTONIA	SOUTH AFRICA
FINLAND	SPAIN
FRANCE	SWEDEN
GERMANY	THAILAND
GREECE	TRINIDAD AND TOBAGO
IRAN (ISLAMIC REPUBLIC OF)	TURKEY
ISRAEL	TUVALU
ITALY	UKRAINE
JAPAN	UNITED KINGDOM
KENYA	UNITED STATES
LATVIA	URUGUAY
LIBERIA	VANUATU
LIBYAN ARAB JAMAHIRIYA	VENEZUELA (BOLIVARIAN REPUBLIC OF)

and the following Associate Member of IMO:

HONG KONG, CHINA

1.3 The session was also attended by observers from the following intergovernmental organization:

EUROPEAN COMMISSION (EC)

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

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
COMITÉ INTERNATIONAL RADIO-MARITIME (CIRM)
BIMCO
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL MARITIME PILOTS' ASSOCIATION (IMPA)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS (IADC)
INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS (ICOMIA)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
COMMUNITY OF EUROPEAN SHIPYARDS' ASSOCIATIONS (CESA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS
(INTERTANKO)
THE INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS
LIMITED (SIGTTO)
DANGEROUS GOODS ADVISORY COUNCIL (DGAC)
THE EUROPEAN ASSOCIATION OF INTERNAL COMBUSTION ENGINE
MANUFACTURERS (EUROMOT)
THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY
(IMarEST)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
INTERNATIONAL SAILING FEDERATION (ISAF)
THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
INTERNATIONAL BUNKER INDUSTRY ASSOCIATION (IBIA)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
INTERNATIONAL PAINT AND PRINTING INK COUNCIL (IPPIC)
THE NAUTICAL INSTITUTE (NI)

Opening address

1.4 The Secretary-General welcomed participants and delivered the opening address, the full text of which is reproduced in document BLG 14/INF.8.

Chairman's remarks

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

Adoption of the agenda and related matters

1.6 The Sub-Committee adopted the agenda (BLG 14/1 and BLG 14/1/Corr.1) and agreed, in general, to be guided in its work by the annotations contained in document BLG 14/1/1, also taking into account document BLG 14/1/2 concerning the arrangements for the session. The agenda, as adopted, together with the list of documents considered under each agenda item, is set out in document BLG 13/INF.9.

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the outcomes of DE 52, LEG 95, FSI 17, MSC 86 and MEPC 59 relevant to the work of the Sub-Committee, as reported in document BLG 14/2, and took them into account in its deliberations when dealing with relevant agenda items.

2.2 The Sub-Committee noted the outcome of the twenty-sixth session of the Assembly, and, in particular, that A 26 had adopted:

- .1 Strategic Plan for the Organization (for the six-year period 2010 to 2015), as set out in resolution A.1011(26);
- .2 High-level Action Plan of the Organization and priorities for the 2010-2011 biennium, as set out in resolution A.1012(26); and
- .3 Guidelines on the application of the Strategic Plan and the High-level Action Plan of the Organization, as set out in resolution A.1013(26),

and took them into account in its deliberations when considering agenda item 14 on Work programme and agenda for BLG 15 (see also paragraphs 14.1 and 14.2).

2.3 The Sub-Committee also noted that A 26 had adopted Global Integrated Shipping Information System (GISIS), as set out in resolution A.1029(26), which urges Member States and intergovernmental organizations to make ample use of the facilities for the reporting and transfer of data into the system.

3 EVALUATION OF SAFETY AND POLLUTION HAZARDS OF CHEMICALS AND PREPARATION OF CONSEQUENTIAL AMENDMENTS

3.1 The Sub-Committee recalled that this part of the agenda traditionally contains routine classification tasks which are normally put directly to the ESPH Working Group prior to further consideration by the Sub-Committee. Notwithstanding this, however, it was recognized that the Sub-Committee always considers the report of the intersessional meeting of the ESPH Working Group and any documents containing matters of principle for which discussions in plenary are necessary.

3.2 The work of the last ESPH session was reviewed and the Sub-Committee thanked the ESPH Working Group and its Chairman, Mr. David MacRae (United Kingdom), for the considerable amount of work that had been carried out during this meeting (ESPH 15).

Report of the fifteenth intersessional meeting of the ESPH Working Group

3.3 In considering the report of the fifteenth intersessional meeting of the ESPH Working Group (BLG 14/3), the Sub-Committee approved the report in general and took action as indicated hereunder:

- .1 agreed with the evaluation of new products and consequential inclusion in the IBC Code;
- .2 endorsed the decision of the Group that when floater behaviour is noted but this is combined with dissolution or evaporation properties (FD or FE ratings in column E2 in the GESAMP Hazard Profile) then a pollution category Y for the substance need

- not be invoked on the basis of the F assignment alone (with reference to rule 10 of Appendix 1 to MARPOL Annex II);
- .3 concurred with the view of the Group that in the case of the shipment of inorganic brines, the carriage requirements that reflect vapour hazards are not necessary;
 - .4 concurred with the evaluation of cleaning additives, noting that sixty-eight formulations had been evaluated, twenty-six of which were approved for inclusion in the list of cleaning additives meeting the requirements of the criteria outlined in MEPC.1/Circ.590;
 - .5 noted the concern with regard to the use of cleaning additives components that are carcinogenic, mutagenic and reprotoxic;
 - .6 noted the deadline in terms of the need to re-evaluate cleaning additives which are only approved under the now superseded guidelines (MEPC/Circ.363), since the approval of such products will cease to be valid after 31 July 2010;
 - .7 agreed to the evaluation of the Trade-named mixtures presenting safety hazards and their consequential inclusion in List 3 of the MEPC.2/Circular with validity for all countries and no expiry date;
 - .8 endorsed the view of the Group whereby, for List 3 Trade-named mixtures, it was acceptable for safety aspects to be addressed by following a higher carriage requirement based on the properties of the components of the mixture but that, as an alternative, manufacturers could elect to request a GESAMP Hazard Profile for the mixture itself to be developed to give a basis for the assignment of carriage requirements;
 - .9 noted that a number of List 3 products were withdrawn from the evaluation process in view of concerns in relation to the disclosure of proprietary business information and invited delegations to put forward any suggestions for improving the process to the ESPH Working Group for consideration;
 - .10 noted that changes to hazard profiles arising from the last GESAMP/EHS meeting (as a consequence of new data becoming available or product families being reassessed) had been reviewed in terms of their impact upon the carriage requirements of the substances concerned and that, as a consequence of this action, other deficiencies in the carriage requirements of many of these entries had been observed;
 - .11 noted the completion of the review of the English version of chapter 19 of the IBC Code (subject to any final comments arising at this session) and agreed with the amendments proposed with a view to incorporating these changes into the next revision of the IBC Code;
 - .12 noted the discussions regarding the implementation of MARPOL Annex II in relation to prewash requirements for vegetable oil cargoes and the attendance of surveyors;

- .13 noted the discussions in relation to the task of collecting data to determine missing Electrical Equipment information as detailed in MSC.1/Circ.1325; and
- .14 approved the future work programme of ESPH, notwithstanding the addition of tasks given to the Group during the discussion of items relevant to their work.

3.4 In relation to item 3.3.2, the delegation of France proposed that, as there were now a number of decisions which had been taken by BLG/ESPH with respect to the evaluation of new products, it would be useful if these could be grouped together and brought to the attention of all Governments. This would be beneficial, since whilst all such decisions are recorded in the reports of meetings, they can sometimes be difficult to find when required for reference purposes. Accordingly, it was proposed that the working group should consider how best to accomplish this and should then work to develop a consolidated document for general use. This was supported by a number of delegations and it was agreed that this item, with the aim of producing an appropriate circular, should be added to the terms of reference to be issued to the Group.

3.5 With respect to item 3.3.10, the delegation of Norway agreed with the need to undertake a review to resolve this point but noted that, if very strict carriage requirements emerge, it may be necessary also to review the criteria specified in chapter 21 of the IBC Code for establishing carriage conditions. This was supported by other delegations and it was agreed that the working group should be tasked to consider this, identifying the steps required and an associated timeline. As a general point, it was recognized that any revision exercise would need to be undertaken with great care, and that the working group would need an appropriate amount of time to progress this accordingly. It was proposed by the delegation of the Cook Islands that, if a review is to be undertaken, there should be no piecemeal amendments made whilst the review is under way but that rather, any changes needed should be handled in one update.

Proposals for new product additions or product amendments to the IBC Code

3.6 The Sub-Committee noted the proposals by Estonia (BLG 14/3/1) for Shale oil, Belgium (BLG 14/3/2) for Metam Sodium and the International Chamber of Shipping (BLG 14/3/3) for Fatty Acid Methyl Esters to be included in the IBC Code.

3.7 The Sub-Committee tasked the ESPH Working Group to carry out the evaluations of these proposals since it was recognized that the evaluation of products is a routine task of the Group which is normally put directly to the Group prior to further consideration by the Sub-Committee.

Associated issues

3.8 In relation to item 3.3.13 above, the Sub-Committee considered a new document, BLG 14/3/4 submitted by the United States, which proposed that the use of information contained in a report of the United States Academy of Sciences' National Materials Advisory Board (NMAB) was equivalent to the data needed by MSC.1/Circ.1325 relating to missing information on Apparatus Groups in column i" of chapter 17 of the IBC Code.

3.9 The Sub-Committee noted that using the NMAB report would overcome many of the problems associated with obtaining this information, and it was agreed that the contents of the report provide an acceptable equivalent to the data required by MSC.1/Circ.1325. Classifications proposed for 124 products based on the NMAB report (and IEC procedures which allow the use of data for a comparable chemical material rather than the substance itself) were accordingly accepted by the Sub-Committee.

3.10 It was noted that, in view of the endorsement of this approach, only 16 products from the 140 identified in annex 1 to MSC.1/Circ.1325 would now require the submission of missing data, and that these substances are listed in the annex to document BLG 14/3/4.

3.11 The representative of CEFIC advised the Sub-Committee that the Chemical Industry Association in Germany was attempting to identify as much information as possible in relation to the missing data indicated in MSC.1/Circ.1325, and proposed that Administrations might also wish to explore initiating a similar approach with their own Chemical Industry contacts.

3.12 The Sub-Committee agreed to consider agenda item 4 (Application of the requirements for the carriage of bio-fuels and bio-fuel blends) before establishing the ESPH Working Group, since the outcome of this item was of relevance to the work of the Group.

Establishment of the working group

3.13 Recognizing the necessity to make further progress on many of the above issues, the Sub-Committee established the Working Group on Evaluation of Safety and Pollution Hazards of Chemicals and instructed it, taking into account the comments and decisions made in plenary, to:

- .1 consider issues relating to the evaluation of new products;
- .2 conduct an evaluation of cleaning additives;
- .3 review MEPC.2/Circular – Provisional classification of liquid substances transported in bulk, and other related matters;
- .4 give further consideration to the application of requirements for the carriage of bio-fuels and bio-fuel blends with a view to defining a preferred way forward highlighting associated legal, technical and other relevant implications;
- .5 follow up the recommendation of MSC-MEPC.2/Circ.8 (Prohibition of blending MARPOL cargoes on board during the sea voyage) in relation to the development of mandatory provisions regulating blending onboard activities;
- .6 continue the review of chapter 19 of the IBC Code;
- .7 consider options for developing a systematic approach to address the deficiencies in carriage requirements noted for a number of entries in chapters 17 and 18 of the IBC Code and develop an appropriate timeline;
- .8 develop a draft BLG circular summarizing previously agreed BLG/ESPH decisions relating to the evaluation of new products;
- .9 prepare the work programme and agenda for ESPH 16; and
- .10 submit a report to plenary on Thursday, 11 February 2010.

Report of the working group

3.14 Having received and considered the report of the working group (BLG 14/WP.3), the Sub-Committee approved the report in general and took action as indicated hereunder:

- .1 endorsed the decision of the Group that Shale oils should be regarded as MARPOL Annex I cargo;
- .2 agreed to the re-evaluation of Metam sodium solution and consequential amendment in the IBC Code;
- .3 concurred with the evaluation of cleaning additives as set out in annex 1;
- .4 noted the decision to terminate the tripartite agreement for Shale Oil and Light Shale Oil and the view that a Certificate of Fitness (or addendum) referencing these products will remain valid;
- .5 agreed with the revision of the text of chapter 19 of the IBC Code and endorsed the proposal that this should be incorporated into the next revision of the IBC Code;
- .6 endorsed the Group's proposals with respect to undertaking a systematic review of chapters 17 and 18 of the IBC Code;
- .7 noted the proposed actions to develop a draft BLG circular summarizing decisions relating to the evaluation of new products;
- .8 approved the future work programme for the intersessional meeting in October 2010; and
- .9 agreed to request MSC 87 and MEPC 61 for an intersessional meeting of the ESPH Working Group in 2011.

4 APPLICATION OF THE REQUIREMENTS FOR THE CARRIAGE OF BIO-FUELS AND BIO-FUEL BLENDS

4.1 The Sub-Committee recalled that bio-fuels are being shipped in increasing quantities worldwide and that these products are often carried blended with mineral fuel. In such cases, there is a question as to whether the blended product should be carried under MARPOL Annex I or Annex II.

4.2 It was further recalled that interim guidelines using three product bands had been agreed to assist industry in the movement of bio-fuel blends. These guidelines (allowing blends with up to 15% bio-fuel to be carried under MARPOL Annex I) could be used for Fatty acid methyl ester (FAME), Ethanol (Ethyl alcohol) and Vegetable oil blends and their usage had been extended until 1 July 2011, as proposed at BLG 13 and subsequently agreed at MEPC 59. As a condition of this extension, it had been agreed that, due to concerns regarding the functionality of the Oil Discharge Monitoring Equipment (ODME) when carrying bio-fuel blends as Annex I cargoes, all residues or tank washings should be pumped ashore unless the ODME is approved/certified for the blend being shipped.

Report of the fifteenth session of the ESPH Working Group

4.3 With respect to the issue of ODME functionality, the Sub-Committee was advised that initial trials by one equipment manufacturer using bio-diesel mixtures had indicated that it should be possible to develop calibration curves for the ODME. It was recognized that, however, in order to have ODME equipment approved and certified to detect bio-fuel mixtures, resolution MEPC.108(49), which sets out the guidelines for oil discharge monitoring, may need to be amended.

4.4 In order to develop a permanent replacement for the interim guidelines, ESPH had previously identified a number of points on bio-fuel blends needing further consideration. No new information had been forthcoming, however, and this had suggested to the Group that the broad approach of the interim guidelines was, therefore, acceptable to all interested parties.

4.5 Building on this approach, the ESPH Working Group had proposed some slight modifications as follows:

- .1 lower the interim 85% limit between Annex I/Annex II (Bands 1 and 2) to 75% in recognition of commercial needs;
- .2 for Band 2 Annex II movements (those products having more than 1% but less than 75% petroleum oil), treat all cargoes as Pollution Category X, Ship Type 2; and
- .3 disregard interim Band 3 (products with 1% or less petroleum oil) as this is already covered by normal Annex II controls.

4.6 This had then resulted in a new, simplified proposal being developed by the ESPH Working Group as noted below:

- Band 1: 75% or more petroleum oil
Product classified as an Annex I cargo
ODME approved/certified for the mixture carried or tank residues and all tank washings pumped ashore
- Band 2: More than 1% but less than 75% petroleum oil
Product classified as an Annex II cargo
Cargo treated as Pollution Category X, Ship Type 2 with carriage requirements assigned based on the generic entry for n.o.s. (4) products.

4.7 Some experts in the Group expressed concern that, since Annex I does not permit the carriage of chemicals, these mixtures should only be carried on chemical tankers, until such time that Annex I might be amended to permit the carriage of blends of petroleum oil and bio-fuels.

4.8 Conversely, however, others raised concerns with regard to differences between the operational discharge requirements of Annex I and Annex II, as Annex I requirements are more stringent for petroleum oil discharge from an environmental point of view than Annex II requirements. In this respect, it was proposed that Annex I carriage with the use of surface discharge and ODME may be a better way of providing an appropriate control for any residual oil content to be discharged overboard.

4.9 In considering the various options available, the working group noted that there were different benefits or concerns associated with the routes proposed. The Group concluded, however, that whatever route was developed, GESAMP/EHS should still nevertheless proceed with the development of profiles for gasoline and diesel, even if these may not be immediately required, in case alternative evaluation approaches should prove to be needed in the future.

4.10 With respect to a consideration of issues related to blending on board, the Sub-Committee was reminded that this point was restricted only to scenarios where operations are carried out in port. This was in accord with the recent MSC-MEPC circular on the “Prohibition of blending MARPOL cargoes on board during the sea voyage” (MSC-MEPC.2/Circ.8).

4.11 It had been recognized that two forms of operation in port should be considered: load on top (with components going directly into the same tank) and blending (where products are moved from different tanks in order to generate a mixture). In this context, a number of classification and administrative aspects had been raised, but in the absence of any new views coming forward, it was proposed that nothing special or additional in relation to these items seemed to be required over and above the standard documentation arrangements.

4.12 In considering the port environment, however, it was concluded that a definition of “in port” was required. The working group proposed that this might be defined as an area within which vessels load or discharge cargo whilst at a safe berth where:

- .1 both component products come from the shore facility at the safe berth and are blended on board; or
- .2 one product comes from the shore facility and the other product is already on board; or
- .3 one product comes from the shore facility and the other product is delivered from a barge/coaster moored alongside the vessel while at the safe berth; or
- .4 one product is delivered from a barge/coaster moored alongside the vessel while at the safe berth and the other product is already on board.

4.13 After due consideration of the above items, the Sub-Committee took action on the points proposed by the ESPH Working Group in their report as indicated hereunder:

- .1 noted that, in the absence of any new information or proposals arising on the carriage of bio-fuel blends, the Group had defined three options for consideration in relation to the carriage of bio-fuel blends as follows:
 - .1 the initial three-band approach;
 - .2 a refined two-band approach with a modified transition limit of 75% petroleum oil; and
 - .3 Annex II carriage only; and
- .2 noted that, in the absence of any new information or proposals arising on the guidance needed for blending on board in port, the Group had concluded that nothing special or additional should be required over and above the use of standard documentation.

Associated issues

4.14 The Sub-Committee noted that since the last meeting of ESPH, further views on a number of the issues presented above had been developed, and these were contained in three documents to be considered at this session. The documents concerned were: BLG 14/4 by Brazil providing “Comments and technical concerns about the development of the requirements for the carriage of bio-fuel with petroleum product blends on tankers; BLG 14/4/1 by Norway relating to the “Carriage of bio-fuel blends”; and BLG 14/4/2, also by Norway, considering “Blending onboard” issues. Following a brief introduction of these documents, with support being expressed for many of the issues raised, it was agreed that, as all three documents posed some detailed questions and considerations, the working group should be tasked to address these points and to take account of the questions raised accordingly.

4.15 As an additional point, it was noted by a number of delegations that there was still a need to prepare the mandatory provisions required for the prohibition of blending MARPOL cargoes on board during the sea voyage. Accordingly, it was agreed that this item should be included in the terms of reference to be issued to the working group, in order to initiate the development of an appropriate regulation.

Instructions to the ESPH Working Group

4.16 Taking note of the above actions and comments, the Sub-Committee instructed the ESPH Working Group to continue its work on the development of carriage standards for bio-fuel blends.

4.17 Having received and considered the report of the group (BLG 14/WP.3), the Sub-Committee approved the report in general and took action in relation to bio-fuels and bio-fuel blends as indicated hereunder:

- .1 noted that the Group concurred with the view of the IMO Legal Division that the carriage and discharge of chemicals on Annex I vessels was largely a technical rather than a legal issue;
- .2 noted the discussion regarding the ODME work with bio-diesel indicating that effective calibration curves were possible and that the criteria defined in resolution MEPC.108(49) should be fully applicable for these mixtures;
- .3 agreed with the conclusions of the Group for the development of new guidelines to control the shipment of bio-fuel/petroleum oil blends;
- .4 agreed that a three band system will be retained with a cut-off limit of 25% bio-fuel for Band 1 carriage under MARPOL Annex I conditions;
- .5 agreed that when Band 2 bio-fuel blends with an excess of 25% bio-fuels are carried they will be treated as Annex II products with generic carriage conditions assigned;
- .6 endorsed the view of the Group to request the Sub-Committee on Fire Protection to advise on the use of alcohol-resistant foams when carrying ethanol/gasoline blends;

- .7 noted the definitions for “in port” and “blending in port” as proposed by the Group and also noted the request for any additional views or information on this issue to be made available for the next ESPH meeting;
- .8 agreed that certification for individual components when loaded in the same port to produce a blend are not required and that only a certificate permitting the carriage of the blended product is needed;
- .9 endorsed the preparation of draft guidelines for the carriage of bio-fuel/petroleum oil blends based on the principles proposed; and agreed to extend the deadline for the item on the Application of the requirements for the carriage of bio-fuels and bio-fuel blends in the BLG work programme to 2011; and
- .10 noted the discussions on the development of mandatory provisions to prohibit the blending of MARPOL cargoes on board during the sea voyage and the proposed draft text developed by the Chairman for further discussion at ESPH 16 as set out in annex 2.

4.18 In relation to the latter point, it was noted that there may be some specific concerns with respect to offshore support vessels and such like and accordingly, Administrations were encouraged to submit to ESPH any issues which may require consideration.

4.19 With regards to blending operations and the definitions noted in paragraph 4.17.7, the representative of the European Commission proposed that blending should only be undertaken when a vessel is in a controlled environment, which means alongside a quay, and that blending at anchorage should therefore be prohibited.

5 DEVELOPMENT OF GUIDELINES AND OTHER DOCUMENTS FOR UNIFORM IMPLEMENTATION OF THE 2004 BWM CONVENTION

5.1 The Sub-Committee recalled that the “International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004” (Ballast Water Management Convention) had been open for accession by any State since 31 May 2005. Three more States (Marshall Islands, Republic of Korea and Sweden) had acceded to the Convention since the last BLG session, which brought the number of contracting Governments to 21, representing 22.63% of the world merchant fleet tonnage. The Sub-Committee urged other Member States to ratify this Convention at the earliest possible opportunity.

5.2 The Sub-Committee noted with satisfaction the information provided by the delegation of Cook Islands regarding the recent accession by the country to the Ballast Water Management Convention, which brought the total number of contracting Governments to 22.

5.3 The Sub-Committee recalled that BLG 13 had prepared an Action Plan for the uniform implementation of the BWM Convention and, in order to expedite future work, had established a correspondence group to continue the development of two guidance documents, namely “Framework for determining when a Basic Approval granted to one ballast water management system may be applied to another system that uses the same Active Substances or Preparation” and “Guidance for manufacturers and Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8)”. The Sub-Committee further recalled that BLG 13 had agreed to establish the Ballast Water and Bio-fouling Working Group at this session to deal with agenda items 5 and 9, with the provisional Terms of Reference set out at annex 4 of document BLG 13/18.

Report of the Correspondence Group on the development of guidelines and other documents for uniform implementation of the 2004 BWM Convention

5.4 In introducing the report of the correspondence group (BLG 14/5), the coordinator, Mr. Chris Wiley (Canada), informed the Sub-Committee of the progress made in the development of two guidance documents mentioned in paragraph 5.3 above. After a brief discussion, the Sub-Committee agreed to refer document BLG 14/5 to the Ballast Water and Bio-fouling Working Group for detailed consideration and completion of the two guidance documents with a view to submitting them to MEPC 61 for approval and dissemination as technical circulars.

Draft Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention

5.5 The Sub-Committee recalled that MEPC 56 had agreed on the need to develop the “Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention” and that BLG 13 had noted that the delegation of the Netherlands had offered to coordinate the development of a co-sponsored document for submission to BLG 14.

5.6 Having considered document BLG 14/5/1 (the Netherlands *et al.*), containing a draft of the Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention, the Sub-Committee agreed to refer it to the Ballast Water and Bio-fouling Working Group for detailed consideration and completion.

Development of an IMO circular on ballast water sampling and analysis protocols

5.7 The Sub-Committee recalled that BLG 13 had urged Members and observers to submit their contributions to the development of an IMO circular to provide sampling and analysis guidance to be followed and to give advice on the uniform application of that guidance, taking into consideration the *aide-memoire* developed by the Ballast Water Working Group at that session.

5.8 In introducing document BLG 14/5/2, the delegation of Brazil recognized the utmost importance of developing a clear guidance on ballast water sampling and analysis protocols and briefly indicated the technical proposals, which could be used in developing such guidance. Recognizing further that its contribution has not provided, at this stage, the Sub-Committee with the necessary base document to facilitate the development of the IMO circular requested by the MEPC, Brazil suggested that the target completion date for this item should be extended to 2011.

5.9 While considering the contribution by Brazil as a good starting point, the delegation of Panama expressed its concern regarding the way port State control officers will conduct the samples analysis, with particular reference to viability of organisms.

5.10 Having considered document BLG 14/5/2 (Brazil), on technical proposals for protocols on ballast water sampling and analysis, the Sub-Committee agreed to refer it to the Ballast Water and Bio-fouling Working Group for detailed consideration.

5.11 The Sub-Committee noted the information contained in document BLG 14/INF.6 (Germany) on results of an onboard ballast water sampling study and initial considerations on how to take representative samples for compliance control with the D-2 standard of

the BWM Convention, and invited other Members to share similar information regarding ballast water sampling and analysis.

5.12 Bearing in mind the high priority nature of developing an IMO circular to provide sampling and analysis guidance, the Sub-Committee invited Members and observers to submit an initial draft for such a circular to BLG 15.

Scaling of ballast water management systems employing UV disinfection and filtration

5.13 Having considered document BLG 14/5/3 (Germany *et al.*) introduced by Norway, proposing the development of a guidance document on the scaling of ballast water management systems employing UV disinfection and filtration, the Sub-Committee agreed on the need to develop such a guidance document to provide specific guidance for ballast water management systems using UV disinfection and filtration, in addition to the guidance contained in the Guidelines for approval of ballast water management systems (G8). Consequently, the Sub-Committee instructed the Ballast Water and Bio-fouling Working Group to do so using document BLG 14/5/3 as a starting point.

Establishment of the working group

5.14 The Sub-Committee established the Ballast Water and Bio-fouling Working Group, under the co-chairmanship of Mr. Chris Wiley (Canada) and Dr. Naomi Parker (New Zealand), and instructed it, taking into consideration the comments made and decisions taken in plenary, to:

- .1 finalize the development of the guidance document “Framework for determining when a Basic Approval granted to one ballast water management system may be applied to another system that uses the same Active Substance or Preparation”, contained in annex 1 of document BLG 14/5, with a view to submitting it to MEPC 61 for approval and dissemination as a technical circular;
- .2 finalize the “Guidance for manufacturers and Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8)”, contained in annex 2 of document BLG 14/5, with a view to submitting it to MEPC 61 for approval and dissemination as a technical circular;
- .3 finalize the “Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention”, using document BLG 14/5/1 as a base document;
- .4 consider the need for standardized protocols to be used by testing facilities involved in the approval of ballast water management systems and advise the Sub-Committee accordingly;
- .5 develop a guidance document on “Scaling of ballast water management systems employing UV disinfection and filtration”, using document BLG 14/5/3 as a starting point; and
- .6 submit a written report on the work carried out including recommendations to MEPC 61 on Thursday, 11 February 2010, for consideration by the Sub-Committee.

5.15 In congratulating the delegation of Cook Islands for their recent accession to the Ballast Water Management Convention, Friends of the Earth International (FOEI) informed the Sub-Committee about the designation of the year 2010 as the “International Year of Biodiversity”, which creates a unique opportunity for IMO to demonstrate its proactive approach to preservation of biodiversity. In this respect, FOEI urged the Member States, which are yet to ratify the Ballast Water Management Convention, to do so at their earliest opportunity.

Report of the working group

5.16 Upon receipt of the report of the working group (BLG 14/WP.4), the Sub-Committee approved it in general, and took action with respect to ballast water issues, as outlined in the following paragraphs.

5.17 The Sub-Committee noted that due to the time constraints imposed by the number of documents, the time allocated to the bio-fouling issues and the extensive Terms of Reference, the Group had prioritized its objectives to make the best use of the time available.

Framework for determining when a Basic Approval granted to one ballast water management system may be applied to another system that uses the same Active Substance or Preparation

5.18 The Sub-Committee noted that, after extensive discussion on the purpose and objectives of the “Framework” document, the document was modified to focus specifically on Active Substances and Preparations that were “identical” with regard to utilization of an approved Basic Approval, the concept of “substantially similar” being no longer considered in the context of specific Active Substances or Preparations, but applied in the context of the associated BWMS.

5.19 The Sub-Committee agreed to the final version of the “Framework” document, as set out in annex 3 of this report, and invited MEPC 61 to approve this guidance document and to instruct the Secretariat to disseminate the “Framework for determining when a Basic Approval granted to one ballast water management system may be applied to another system that uses the same Active Substance or Preparation” as a technical circular.

Guidance for Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8)

5.20 The Sub-Committee noted that the initial draft contained in annex 2 of document BLG 14/5 was modified to focus on developing uniform and consistent guidance for the Administrations during the Type Approval process.

5.21 The Sub-Committee agreed with the final version set out in annex 4 of this report and invited MEPC 61 to approve the “Guidance for Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8)” and instruct the Secretariat to disseminate it as a technical circular.

Scaling of ballast water management systems employing UV disinfection and filtration

5.22 The Sub-Committee noted that document BLG 14/5/3 was submitted with the intent of provoking discussion and providing input to the issue, and filtration combined with UV, which have been identified in a number of submissions for type approval worldwide, were selected as examples.

5.23 Having recognized that the normal practice for type approval of marine equipment is not to use scaling, the Sub-Committee noted that a number of manufacturers of BWMS have proposed scaling as a means to service the full range of the marine market. The Sub-Committee agreed that appropriate guidance and recommendations were not yet available and Administrations should evaluate each proposal on its own merits.

5.24 The Sub-Committee noted that, with the limited information available, it was not possible to develop appropriate guidance on this matter, and requested Members and observers to provide technical submissions to BLG 15 on the scaling issues – focusing on, but not limited to, topics such as: specific requirements for the type approval process, the Computational Fluid Dynamics model, validation, input factors, required physical testing to validate the models and efficacy – to facilitate the development of a technical circular similar to BWM.2/Circ.8, which could be updated periodically to reflect the progress in science and engineering.

5.25 The observer from FOEI indicated that using BWMS installed in parallel would not raise significant technical problems and the future work on scaling should focus on units installed in series.

Draft Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention

5.26 The Sub-Committee noted that, in the time available, the Group was not able to have a detailed discussion on document BLG 14/5/1 and that regulation B-3.7 of the BWM Convention should be interpreted both from the perspective of compliance with D-2 standard and from the holistic objective of preventing the transfer or introduction of invasive aquatic species via ballast water discharge. The Sub-Committee agreed that further consideration of this issue is necessary, and encouraged Members and observers to contact co-sponsors of document BLG 14/5/1 to develop an updated version of the Procedure that could be submitted to BLG 15.

Technical proposals for Protocols on ballast water sampling and analysis

5.27 The Sub-Committee noted that, in the time available, the Group was not able to consider document BLG 14/5/2 (Brazil) and agreed to refer this document to BLG 15 for further consideration.

5.28 The Sub-Committee agreed that sampling and analysis continues to be a high priority, with ramifications related to the Guidelines for port State control under the BWM Convention currently under development by the FSI Sub-Committee, and urged Members and observers to submit technical contributions to the development of a circular to provide ballast water sampling and analysis protocols, taking into account the *aide-memoire* developed at BLG 13.

5.29 Having noted that more scientific work is needed for the analysis of “representative” samples required for enforcement, and that protocols for sampling the treated ballast rather than untreated water are required to further progress this work, the Sub-Committee encouraged all the delegations to consider both “representative” and “indicative” sampling and analysis procedures in accordance with the provisions of Guidelines (G2).

5.30 The Sub-Committee noted with appreciation the information provided by the observer from the European Commission (EC), who indicated that the European Maritime Safety Agency, in conjunction with the EU Member States, has begun to discuss ballast water sampling for enforcement and will continue debating and discussing it in various fora over the next few

months. The European Commission will share the conclusions and results of the debate with IMO and, based on the conclusions and findings of these discussions, EC intends to present a document to BLG 15 to develop the existing *aide-memoire* into a potential draft guidance document on sampling. EC welcomed offers of help from any IMO Member State or observer who would like to assist.

5.31 With regard to sampling and analysis, the delegate from FOEI made a plea to all members to allocate the necessary resources to facilitate further development of the scientific basis for robust sampling protocols to address this matter.

Future work

5.32 Having noted that, in the time available, the Group was not able to fully address all the terms of reference and complete the work, the Sub-Committee invited MEPC 61 to extend the target completion date for agenda item 5 to the year 2012, and to re-establish the working group at BLG 15. The provisional Terms of Reference relating to ballast water management are provided in annex 5 of this report.

5.33 The observer from ICS was of the view that there are clear indications that the BWM Convention could meet the requirements for entry into force before 2012 and recommended that every measure should be taken to expedite the work related to the conditions needed for uniform implementation of the Convention. Similar views were expressed by the delegations of the Netherlands, Saudi Arabia and Singapore suggesting to separate the work currently done on ballast water and bio-fouling into two working groups with the highest priority assigned to ballast water.

5.34 In summing up the views expressed, the Chairman of the Sub-Committee endorsed the views related to the entry into force of the BWM Convention and invited all delegations to do their utmost to prepare intersessionally to progress the work on sampling and analysis at BLG 15. The Chairman reiterated the ongoing nature of the process of developing guidelines and recommendations as the knowledge and technology progresses and reminded the Sub-Committee that this process applies to all IMO instruments including MARPOL 73/78, which has been in force for more than 25 years.

5.35 Having considered the actions requested by the working group with regard to ballast water management and the comments made by various delegations, the Sub-Committee:

- .1 invited MEPC 61 to approve the “Framework for determining when a Basic Approval granted to one BWMS may be applied to another system that uses the same Active Substance or Preparation” (annex 3), and to request the Secretariat to issue a BWM circular on this matter;
- .2 invited MEPC 61 to approve the Guidance for Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8) (annex 4), and to instruct the Secretariat to issue a BWM circular on this matter;
- .3 invited Members and observers to submit to BLG 15 further technical consideration on the issues of scaling of ballast water management systems;

- .4 urged Members and observers to submit their future contributions to the development of a circular to provide ballast water sampling and analysis protocols taking into consideration the *aide-memoire* developed by BLG 13;
- .5 requested the MEPC to extend the target completion date for the agenda item “Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention” to the year 2012;
- .6 agreed to re-establish the working group at BLG 15 with the provisional Terms of Reference relating to ballast water management contained in annex 5 of this report; and
- .7 agreed with the revised Action Plan to develop the remaining documents needed for uniform implementation of the BWM Convention as contained in annex 6.

6 DEVELOPMENT OF PROVISIONS FOR GAS-FUELLED SHIPS

6.1 The Sub-Committee recalled that MSC 86 had adopted resolution MSC.285(86) on Interim Guidelines on safety for natural gas-fuelled engine installation in ships and that, having noted that this Sub-Committee had commenced work on the development of the International Code of safety for gas-fuelled ships (IGF Code), had agreed to extend the target completion date for the development of the IGF Code to 2012.

6.2 The Sub-Committee further recalled that BLG 13 had agreed to establish a Correspondence Group on Development of provisions for gas-fuelled ships, under the coordination of Norway, with the terms of reference specified in paragraph 6.17 of document BLG 13/18.

6.3 The Sub-Committee had for its consideration the report of the correspondence group (BLG 14/6/1) submitted by Norway as coordinator of the group, whereby the group, using document BLG 13/WP.6 as a basis, had further developed the framework, structure and functional requirements of the IGF Code. The group noted during its deliberations that the IGC Code, in chapter 16, identified a number of gases to be utilized as gas fuel and allowed for other additional gases upon consideration by the Administration. Hence, the correspondence group reaffirmed the decision by BLG 13 and MSC 86 that the IGF Code should also address gases other than LNG.

6.4 While considering the report of the correspondence group, the Sub-Committee took into consideration the following submissions:

- .1 document BLG 14/6 (Germany) which included proposals for the designs of gas-fuelled ships, in particular on the application of paragraph 2.8.1.1 of the Interim Guidelines on safety for natural gas-fuelled engine installations in ships (resolution MSC.285(86)), as well as the interpretation of paragraphs 2.8.4.3, 2.8.4.4 and 2.10.2.1 thereof for tank room ventilation and on secondary barrier; and for the application of the safe and reliable independent tank concept according to chapter 4 of the IGC Code for the development of the IGF Code; and

- .2 document BLG 14/6/2 (Sweden), which provided comments on the report of the correspondence group and included proposals for expansion of the scope and framework stated in the BLG 13 report (document BLG 13/18, annex 10). The comments focused, in particular, on alternative liquid fuels with low-flash point with similar properties as LNG and also on the safety issues regarding bunkering operations of alternative fuels.

6.5 In the course of consideration of the aforementioned documents, the Sub-Committee had in-depth discussion and noted support, in general, on the application of paragraph 2.8.1.1 of the Interim Guidelines on safety for natural gas-fuelled engine installations in ships, as well as the interpretation of paragraphs 2.8.4.3, 2.8.4.4 and 2.10.2.1 thereof for tank room ventilation and on secondary barrier; and for the application of the safe and reliable independent tank concept according to chapter 4 of the IGC Code for the development of the IGF Code, as well as the Interim Guidelines.

6.6 The Sub-Committee also noted support in its entirety to the proposal by Sweden for expansion of the scope and framework for the development of the IGF Code outlined in document BLG 13/18, annex 10 to address alternative liquid fuels with low-flash point with similar properties as LNG, as well as the safety issues regarding bunkering operations of alternative fuels.

Establishment of the working group

6.7 Following the above discussion, the Sub-Committee established the Working Group on Development of provisions for gas-fuelled ships, under the chairmanship of Ms. T. Stemre (Norway), and instructed it, taking into consideration documents BLG 14/6, BLG 14/6/1, BLG 14/6/2 and BLG 14/INF.7 and the decisions taken and comments made in plenary, to:

- .1 further develop the draft International Code on safety for natural gas-fuelled ships (IGF Code); and
- .2 develop terms of reference for the Correspondence Group on Development of the IGF Code.

Report of the working group

6.8 Having received the report of the working group (BLG 14/WP.5), the Sub-Committee approved the report in general and took action as detailed in the following paragraphs.

Equivalent solution for tank room requirements of the Interim Guidelines

6.9 With regard to the proposal by Germany (document BLG 14/6), regarding a possible equivalent solution for the tank room requirements of the Interim Guidelines, the Sub-Committee:

- .1 noted that the intention of the requirements in the Interim Guidelines for a secondary barrier called “tank room” is to confine all leakages from a tank and its connections in a safe space that can withstand the temperature and the pressure of the gas, protect the surrounding ship steel and make sure that a leakage is not spreading into surrounding spaces. For the tank, this can be fulfilled by using requirements of chapter 4 of the IGC Code, including the secondary barrier

requirements. However, the IGC Code does not include requirements for leakage protection for connections below deck which will require consideration; and it is, therefore, not clearly stated in the Interim Guidelines that the secondary barrier requirements of the IGC Code should be used, and a secondary barrier requirement is, instead, included in paragraph 2.8.4.3 of the Interim Guidelines, covering both tank and connections; and

- .2 agreed that, as an equivalent alternative to the provisions in paragraphs 2.8.4.3 and 2.8.4.4 of the Interim Guidelines, it would be considered acceptable to arrange the secondary barrier of the independent gas tank in accordance with chapter 4 of the IGC Code and, in addition, to cover all tank connections located in enclosed spaces in such a way that it will confine any leakage from the tank through a failure of the tank connections in the same manner as outlined in paragraph 2.8.4.3 of the Interim Guidelines.

Inclusion of low-flash point liquid fuels

6.10 As to the proposal from Sweden to include, in the IGF Code, low-flash point liquid fuels (document BLG 14/6/2), the Sub-Committee, having noted that at least methanol, ethanol and low-flash point synthetic fuels should be considered, as they are currently used as fuel for fuel cell systems, agreed that most likely low-flash point liquid fuels may need similar safety requirements as the liquefied gases addressed in the IGF Code and, therefore, could be covered by the IGF Code. There was a view that these fuels should be regulated because they may be used in shipping in the near future. The general introduction, in the IGF Code, of low-flash point liquid fuels was regarded as an expansion of the scope of the current work programme item. Consequently, the Sub-Committee agreed to a justification for the expansion of the scope of the item and for the change of the title of the item to “Code of safety for ships using gas or other low-flash point fuels with properties similar to liquefied natural gas”, set out in annex 7, for submission to MSC 87 for consideration and action as appropriate.

Refuelling of gas

6.11 The Sub-Committee noted that the group had discussed the issue of refuelling, and had felt that only the part of the operation related to the ship itself was within the scope of IMO’s work. In this regard, the delegation of Sweden reserved its position on the issue, as they felt that the whole refuelling operation is an issue of great safety concern.

Functional requirements

6.12 The Sub-Committee endorsed the revised list of functional requirements for the IGF Code, as prepared by the group, set out in annex 2 to document BLG 14/WP.5.

Framework, structure and functional requirements

6.13 The Sub-Committee noted that, while analysing the framework, structure and functional requirements for the IGF Code, the group had agreed to modify the list of contents of the Code based on a more goal-oriented and user-friendly approach and had prepared the revised structure of the Code, as set out in annex 3 to document BLG 14/WP.5, with the understanding that issues related to Part A and Parts C, D and E of chapter 7, as proposed by the correspondence group (BLG 14/6/1, annex) will be addressed in the requirements for the various system functions. It was agreed that, in addition to referring to the related functional requirements, the purpose of

the various requirements should be stated in the body of the Code. The Sub-Committee subsequently agreed to the revised structure of the IGF Code.

6.14 In the context of the above issue, the Sub-Committee noted that the group had also agreed that:

- .1 there was a need for clear guidance to Administrations on how to approve alternative design, and that the guidelines for alternative designs developed by the Organization needed to be examined in order to establish if they are fit for the IGF Code's purpose;
- .2 issues for consideration by other sub-committees should be identified at BLG 15 for referral to the sub-committees concerned; and
- .3 further work on the revised structure may be needed, and such work could be done by the correspondence group when further developing the body of the IGF Code.

Emergency shutdown (ESD) concept

6.15 Having noted the relevant comments of the group, the Sub-Committee agreed that the ESD concept should be included in the IGF Code, and that potential limitations of ESD applications should be further considered by the correspondence group.

Provisions of the Interim Guidelines on safety for natural gas-fuelled engine installations in ships which require further consideration

6.16 The Sub-Committee noted that the group, in addition to the issues highlighted in document BLG 14/6 (Germany), had identified the following issues addressed in the Interim Guidelines that require additional discussion in detail when further developing the IGF Code (the list is not exhaustive and reference to paragraphs are made to those of the Interim Guidelines):

- .1 requirement for two tanks (paragraphs 2.6.2.3 and 2.6.3.2);
- .2 dividing fuel storage into two or more tanks of approximately equal size (paragraphs 2.6.2.3 and 2.6.3.2);
- .3 distributing engine power for ESD-protected machinery spaces to maintain at least 40% power after shutdown of one space (maintain safe navigation) (paragraph 2.6.3.1.1);
- .4 requirement for secondary independent fuel supply on gas engines (paragraph 6.2.2 when referring to paragraph 2.6.2.2);
- .5 addition of a new requirement for rapid detection and shutdown of gas supply at pipe rupture in ESD-protected machinery space and high pressure gas supply system;
- .6 distance of tanks from shell plating (paragraph 2.8.4.2);
- .7 holding time of tanks regarding filling limits (paragraph 2.8.1.5);

- .8 pressure relief valves (paragraph 2.8.1.3);
- .9 gas piping (paragraphs 2.5.16, 2.9.3.1 and 2.9.3.2);
- .10 gas supply (paragraph 2.7.1.1); and
- .11 ventilation (section 2.10),

and invited Member Governments and international organizations to submit further information on these issues to the correspondence group.

Terms of reference for the correspondence group

6.17 The Sub-Committee agreed to establish the Correspondence Group on Development of the IGF Code, under the coordination of Norway*, with the following terms of reference:

- .1 to further develop the draft International Code on safety for gas-fuelled ships (IGF Code), based on the Interim Guidelines on safety for natural gas-fuelled engine installations in ships, also taking into consideration annexes 2 and 3 to, and the list of the issues contained in paragraph 6.16 of, document BLG 14/17;
- .2 to identify potential limitations of the application of the ESD concept defined in paragraph 2.6.3 of the Interim Guidelines within the IGF Code; and
- .3 to submit a report to BLG 15.

7 CASUALTY ANALYSIS

7.1 The Sub-Committee recalled that BLG 13 had been advised that FP 53, having considered relevant issues under the agenda item on “Measures to prevent explosions on oil and chemical tankers transporting low-flash point cargoes” and after a detailed discussion on the matter had taken relevant decisions, advising BLG 13 accordingly (BLG 13/18, paragraph 7); had invited Member Governments and international organizations to submit proposals for concrete amendments to relevant IMO instruments and any other information regarding the matter to FP 54; and had agreed that a working group should be established at that session to consider such proposals and any other information submitted.

7.2 The Sub-Committee further recalled that BLG 13, having noted the outcome of FP 53, had urged Member Governments and international organizations to provide comments, if any, for consideration at this session.

* **Coordinator:**
Ms. T. Stemre
Senior Adviser
Legislation and International Relations
Norwegian Maritime Directorate
P.O. Box 2222
N-5509 Haugesund
Norway
Tel: +47 52 74 51 51
Fax: +47 52 74 50 01
E-mail: tbs@sjofartsdir.no

7.3 The Sub-Committee noted that no documents had been submitted for consideration at this session and that this is a continuous work programme item that remains on the agenda pending the outcome, if any, of the FSI Sub-Committee for consideration.

8 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

8.1 The Sub-Committee noted that MSC 86 had agreed to the draft unified interpretations of paragraphs 11.1.1.3 and 11.1.1.4 of the IBC Code in order to provide parity for the application of SOLAS regulations II-2/10.2, 10.4 and 10.5 to cargo ships between 500 and 2,000 gross tonnage and to chemical carriers between 500 and 2,000 gross tonnage. This issue was dealt with at BLG 13 and, in that respect, the MSC approved MSC.1/Circ.1323 on Unified interpretations of the IBC Code.

Use of sludge oil during the warming-up process of shipboard incinerators

8.2 The Sub-Committee considered a proposal by IACS (BLG 14/8) for a possible Unified Interpretation under regulation 16 of MARPOL Annex VI related to the use of sludge oil in type-approved continuous-feed shipboard incinerators during their warming-up when the temperature is still below 850°C (the normal operating combustion chamber gas outlet temperature is 850-1200°C).

8.3 Having discussed the above proposal thoroughly, the Sub-Committee recognized that it could not reach a consensus agreement and, in consequence, invited IACS to liaise with interested delegations to submit a new proposal to the Sub-Committee for consideration.

9 DEVELOPMENT OF INTERNATIONAL MEASURES FOR MINIMIZING THE TRANSFER OF INVASIVE AQUATIC SPECIES THROUGH BIO-FOULING OF SHIPS

9.1 The Sub-Committee recalled that BLG 13, having considered the report of the correspondence group established at BLG 12 (BLG 13/9), had noted the progress made in the development of the “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”, and had re-established the correspondence group to further develop these Guidelines. The Sub-Committee also recalled that with the view to expediting the work under this agenda item, BLG 13 had agreed to establish the Ballast Water and Bio-fouling Working Group at this session to deal with agenda items 5 and 9, with the provisional Terms of Reference set out in annex 4 to document BLG 13/18.

Report of the correspondence group

9.2 In introducing the report of the correspondence group (BLG 14/9), the coordinator, Dr. Naomi Parker (New Zealand), informed the Sub-Committee of the various tasks carried out by the group since BLG 13 in accordance with its terms of reference and, in particular, of the progress made in the development of the “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”.

9.3 In introducing documents BLG 14/9/1 and BLG 14/9/2, the delegation of Australia emphasized the advantages of using a risk assessment approach for in-water cleaning activities, and offered additional text on design and construction considerations to minimize bio-fouling accumulation.

9.4 In introducing document BLG 14/9/3, the delegation of Japan recommended pragmatism in approaching the bio-fouling issue, and indicated that a balance is needed between total protection of the environment and the availability of technologies to do so. Japan further recommended that the bio-fouling Guidelines should be as practical as possible for all the parties involved, and should avoid the use of mandatory language to allow for future improvement when more experience on this matter becomes available.

9.5 While commending New Zealand for the excellent report on the work of the Correspondence Group, the majority of the delegations that took the floor supported the proposal by Japan to remove the mandatory wording throughout the text and preserve the voluntary character of the Guidelines.

9.6 While supporting the further development of these Guidelines, the observer from IACS, supported by ICS, drew the attention of the Sub-Committee to a number of safety issues that may need to be considered when dealing with access to the hull and appendages, thickness measurements and surveys of the hull.

9.7 After extensive discussions, the Sub-Committee agreed to refer the above-mentioned documents to the Ballast Water and Bio-fouling Working Group for detailed consideration, introducing an additional item relating to safety issues to the Terms of Reference of the Group. Furthermore, the Sub-Committee recalled the high priority character of this matter, and requested the Ballast Water and Bio-fouling Working Group to progress the development of the bio-fouling Guidelines as far as possible in the time available, and provide a clear indication of the future work that may be necessary and of the need to re-establish the Correspondence Group on bio-fouling of ships.

Information related to bio-fouling management and control

9.8 The Sub-Committee noted with appreciation the information contained in the documents as follows:

- .1 document BLG 14/INF.2 (FOEI) containing an example of the problems associated with the introduction of a non-indigenous aquatic species (*Didemnum vexillum*) through hull fouling on recreational craft and the attempts to eradicate it from the respective marina/yacht harbour;
- .2 document BLG 14/INF.4 (FOEI) on the increased risk of invasive aquatic species transfer via hull fouling on ships as a result of the current global economic recession and on the need for vigilant action by Member States; and
- .3 document BLG 14/INF.5 (Australia) on its new online resources to assist in the management of marine pests, including the new website (www.marinepests.gov.au), a series of national voluntary bio-fouling management guidelines, a marine pest identification guide and national control plans for established pests.

Terms of reference for the Ballast Water and Bio-fouling Working Group

9.9 The Sub-Committee agreed to add the following terms of reference to the Ballast Water and Bio-fouling Working Group established during the consideration of agenda item 5:

- .1 review and revise the draft “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”, using annex 2 to document BLG 14/9 as a base document. In reviewing the Guidelines, consider the key issues that require resolution as outlined in annex 3 to document BLG 14/9 and comments contained in documents BLG 14/9/1 and BLG 14/9/2 (Australia) and BLG 14/9/3 (Japan);
- .2 identify, and address as appropriate any safety-related issues in the development of the draft bio-fouling Guidelines;
- .3 consider the appropriate time frame, criteria and process for evaluating the effectiveness of the Guidelines once adopted and advise the Sub-Committee accordingly; and
- .4 depending upon the progress made in the working group, and in order to expedite the finalization of the “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”, consider:
 - .1 the need to re-establish the Correspondence Group on Bio-fouling; and
 - .2 the need to convene an intersessional meeting of the Bio-fouling Working Group prior to BLG 15.

9.10 Without minimizing the importance of the bio-fouling Guidelines, the delegation of the United Kingdom invited the Sub-Committee to continue to focus on the completion of the necessary guidance to ensure the uniform implementation of the Ballast Water Management Convention, which is likely to enter into force in the near future.

Consideration of the report of the Ballast Water and Bio-fouling Working Group

9.11 Having received the report of the working group (BLG 14/WP.4), the Sub-Committee took action as outlined in the following paragraphs with respect to the bio-fouling issues:

Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species

9.12 The Sub-Committee noted that the Group had a general discussion on the draft Guidelines and agreed to ensure that the Guidelines are practical, pragmatic and appropriately targeted.

9.13 The Sub-Committee agreed that it would not be appropriate to use mandatory language in the Guidelines and that the voluntary character should be clearly indicated. The Sub-Committee agreed further that the Guidelines should be reviewed after a predetermined period of time, to allow for practical evaluation and amendment as appropriate.

9.14 Having examined the conclusions of the Group with regard to the issues outlined in annex 3 to document BLG 14/9, the Sub-Committee agreed with the following recommendations for the further development of the Guidelines:

- .1 While it is up to the relevant State to determine whether to allow in-water cleaning, generic guidance on factors that should be considered in a risk assessment of in-water cleaning should be included in the Guidelines.
- .2 The key objective of the Guidelines was to provide a consistent approach to bio-fouling management and bioregional or regional approach would not be appropriate. Likewise, guidance on enforcement of, or compliance with any specific legislation enacted by States should not be included in the current draft.
- .3 Include a section in the Guidelines relating to training and education focused on raising awareness of the bio-fouling issue and options for its management and/or control.
- .4 Guidance for small recreational craft of less than 24 metres in length should be developed as a stand-alone document, and the Guidelines currently provided in annex 2 to document BLG 14/9 should focus on commercial vessels and recreational vessels greater than 24 metres in length. The two documents should contain appropriate cross references.
- .5 Include guidance on notices to ships issued by States on particular invasive species that may be present in a port.
- .6 Definitions used in the Guidelines should align with the AFS Convention, where appropriate.
- .7 The concept of a clean ship, being a ship that has no more than a micro bio-fouling or slime layer, was useful and the ultimate aim of bio-fouling management should be to minimize the risk of transfer of invasive aquatic species.
- .8 A clear voluntary standard for containing the material that resulted after in-water cleaning may be useful and would encourage technology development.

9.15 The Sub-Committee noted that, in the time available, the Group was only able to work through to section 5.12 of the draft, and that the definitions (section 2) would need to be revisited once the rest of the document was finalized.

9.16 Having noted that there is still considerable work to be done, the Sub-Committee agreed to re-establish the bio-fouling Correspondence Group under the coordination of New Zealand* with the following terms of reference:

*

Coordinator:

Dr. Naomi Parker
Manager, Strategic Science Team
Senior Science Advisor (Marine)
MAF Biosecurity New Zealand
Pastoral House, 25 The Terrace
Wellington, New Zealand
Tel: + 64 4 894 0115
Fax: + 64 4 894 0730
E-mail: naomi.parker@maf.govt.nz

- .1 finalize the development of the draft Guidelines using the revised text contained in the working group's report as a base text and focusing on those areas that were not able to be revised at BLG 14 including consideration of safety issues;
- .2 prepare a draft MEPC resolution for the adoption of the Guidelines; and
- .3 consider the appropriate time frame, criteria and process for evaluating the effectiveness of the Guidelines once adopted.

9.17 The Sub-Committee agreed further to invite MEPC 61 to extend the target completion date for agenda item 9 to the year 2012 and to re-establish the working group at BLG 15. The provisional Terms of Reference relating to bio-fouling are provided in annex 5 of this report.

9.18 Having considered the action requested by the Working Group with regard to bio-fouling and the comments made by various delegations, the Sub-Committee:

- .1 noted the progress made in the development of the "Guidelines for the control and management of ships' bio-fouling to minimize the transfer of invasive aquatic species"; and
- .2 agreed to re-establish the bio-fouling Correspondence Group under the coordination of New Zealand with the terms of reference contained in paragraph 9.16 of this report.

10 REVISION OF THE IGC CODE

10.1 The Sub-Committee recalled that MSC 83 had agreed to include, in the Sub-Committee's work programme, a high-priority item on "Revision of the IGC Code", with a target completion date of 2010, in cooperation with the FP, DE, SLF and STW Sub-Committees, as necessary and when requested by the BLG Sub-Committee.

10.2 The Sub-Committee further recalled that BLG 12, in considering the item, had emphasized the ongoing development of goal-based standards by the MSC and was of the opinion that it would be appropriate to exercise caution and prudence to ensure that a goal-based approach is taken in the review of the IGC Code and not the development of goal-based standards.

10.3 The Sub-Committee also recalled that, at BLG 13, the observer from SIGTTO advised the Sub-Committee that an industry steering group for the revision of the IGC Code had met in London on Friday, 25 January 2008 with SIGTTO acting as secretariat, coordinator and focal point for all the groups. This first steering group consisted of 12 senior industry representatives from around the world. It was agreed that 10 working groups should be set up to examine different sections of the Code and revise them as necessary. This also included a group to advise on "goal-based" matters. The working groups consisted of experts from classification societies, liquefied gas ship operators, shipyards specializing in construction of these ships, and other relevant bodies, each reporting back to the steering group. One hundred and twenty-nine experts from 48 different organizations and 18 countries had actively been involved in the work on the revision of the Code. Subsequently, BLG 13 invited SIGTTO to keep the Sub-Committee informed of the progress made to this session of the Sub-Committee.

10.4 The Sub-Committee noted information (document BLG 14/10) on the result of research done on the gas dispersion characteristics at vent mast exit and emphasizing that it would be possible to find a proper tool which can be utilized to determine a safe height of a vent mast since it has been confirmed by this research that the dispersion characteristics of gas spouted from vent masts can be predicted with a proper computer simulation. In carrying out such study, however, the complexity of affecting parameters such as wind speed, venting speed, density of gas, etc., need to be considered and thus, it may be necessary to seek a way to define standard environmental conditions to obtain more accurate results. In this context, the Sub-Committee noted the comments made by the observer from SIGTTO that the results of the studies had been taken into consideration in their work on the aforementioned revision of the IGC Code.

10.5 In pursuance of the invitation of BLG 13 to keep the Sub-Committee informed of the progress made in the work on the revision of the IGC Code, the observer from SIGTTO informed the Sub-Committee that, to date, there had been 36 working group meetings, each generally of 2 days' duration, and with an average of 12 members attending. These meetings had been held in 14 different countries and members of the Maritime Administration of the host countries were invited to attend the meetings. It was estimated that approximately 990 man days had been spent in working group meetings, as well as an incalculable number of hours of "homework" undertaken by individuals. Having acknowledged the enthusiasm of the participants, the observer took the opportunity to thank them for their tremendous efforts. The observer further advised that the technical review of the Code is almost complete, with only one further working group meeting planned for the end of this month and that the steering group, with support from the SIGTTO secretariat, would consolidate this work into a draft revised IGC Code which will be submitted to BLG 15 for consideration.

10.6 Having noted the intention of SIGTTO to submit a draft text of the IGC Code to BLG 15, the Sub-Committee invited Member Governments and international organizations to submit their comments on the draft Code.

10.7 In view of the above developments, the Sub-Committee invited the Committee to extend the target completion date of the item to 2014.

11 SAFETY REQUIREMENTS FOR NATURAL GAS HYDRATE PELLET CARRIERS

11.1 The Sub-Committee recalled that MSC 83 had agreed to include, in the Sub-Committee's work programme, a high-priority item on "Safety requirements for natural gas hydrate pellet carriers", with three sessions needed to complete the item, and instructed the Sub-Committee to include the item in the provisional agenda for BLG 13.

11.2 The Sub-Committee further recalled that BLG 13, having considered the proposals by Japan, agreed to establish a Correspondence Group on Safety requirements for natural gas hydrate pellet (NHGP) carriers, under the coordination of Japan, with the terms of reference specified in paragraph 12.2 of document BLG 13/18.

11.3 The Sub-Committee had for its consideration the report of the correspondence group (BLG 14/11), whereby the group, having considered documents MSC 82/23/3, annex, BLG 13/12/1 and BLG 13/INF.2, which provided the results of hazard identification (HAZID) meeting for an NGHP carrier, and documents BLG 13/12 and BLG 13/12/2, which provided a set of preliminary draft guidelines for the construction and equipment of ships carrying NGHPs in bulk, prepared the draft Interim Guidelines and associated draft MSC circular.

11.4 Having considered the report of the correspondence group, the Sub-Committee established a Drafting Group on Safety requirements for natural gas hydrate pellet (NHGP) carriers and instructed the group, taking into consideration document BLG 14/11 and decisions taken and comments made in plenary, to finalize the draft Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets in bulk and draft associated MSC circular.

Report of the drafting group

11.5 Having received the report of the drafting group (BLG 14/WP.6), the Sub-Committee approved the report in general and took action as indicated hereunder:

- .1 agreed to the draft Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk, and the associated draft MSC circular, set out in annex 8, for submission to MSC 87 for approval;
- .2 noting the group's discussion on matters related to emergency shutdown for cargo handling systems, the Sub-Committee invited Member Governments, in particular Japan, and international organizations to provide further information on Natural Gas Hydrate Pellets (NGHP) carriers; and
- .3 noted the group's views that, after the finalization of the revision of the IGC Code, the Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk should be revised, with a view to developing definitive Guidelines, taking also into consideration the requirements of the revised IGC Code.

12 REVIEW OF RELEVANT NON-MANDATORY INSTRUMENTS AS A CONSEQUENCE OF THE AMENDED MARPOL ANNEX VI AND THE NO_x TECHNICAL CODE

12.1 The Sub-Committee recalled that the MEPC 58 unanimously adopted the revised MARPOL Annex VI by resolution MEPC.176(58) and the NO_x Technical Code 2008 by resolution MEPC.177(58). MEPC 58 agreed to set the expected entry-into-force date for the two revised instruments to 1 July 2010 to allow sufficient time to undertake the update of affected guidelines and to develop new guidelines to facilitate smooth implementation.

12.2 The Sub-Committee recalled also that BLG 13 categorized the guidelines and guidance to be addressed and/or developed as a priority, taking into account relevant entry-into-force dates of the revised MARPOL Annex VI and the associated lead time required. BLG 13 conducted a comprehensive review of the guidelines of high priority and finalized updated drafts of five existing guidelines, developed one set of new guidelines, and three draft MEPC circulars. MEPC 59 approved these draft guidelines and circulars. Due to time constraint, BLG 13 could not consider and develop the guidelines of medium and low priority, and agreed to continue this task at this session.

Guidelines for Selective Catalytic Reduction (SCR) after-treatment devices

12.3 The Sub-Committee considered document BLG 14/12 (Chairman of the working group) on the second part of the discussions in the working group at BLG 13, focusing on guidelines for Selective Catalytic Reduction (SCR) after-treatment devices.

12.4 Following a brief debate, the Sub-Committee endorsed the framework and parameters for developing draft guidelines for SCR after-treatment devices, as developed by the working group at the Sub-Committee's last session, which is set out in the annex to document BLG 14/12.

12.5 The Sub-Committee considered submissions building on the framework and parameters developed by the working group at BLG 13 and documents providing related comments, as described below:

- .1 Japan, in document BLG 14/12/1, provided proposed draft guidelines for certification of marine diesel engines fitted with SCR systems, taking into account the framework and comments developed by the working group at BLG 13;
- .2 the United States, in document BLG 14/12/3, commented on the draft guidelines proposed by Japan in document BLG 14/12/1, especially on the separate certification scheme of the engine and the SCR unit (Scheme B). The United States also provided technical questions and concerns that needed to be addressed in the draft guidelines, as well as editorial comments; and
- .3 EUROMOT, in document BLG 14/12/5, proposed an optional scheme for testing, survey and certification of large engines fitted with SCR systems. The proposed scheme consisted of detailed individual tests on test beds for the engine and SCR units separately, and a simplified combined verification test on board after installation. It was proposed that the engine family and engine group concepts may be applied for the engine, as well as for the combined unit.

12.6 The Sub-Committee agreed that the annex to document BLG 14/12/1 should be used as the base document, but noted that a thorough review was needed to bring all parts of the draft in line with the requirements of the NO_x Technical Code 2008 (NTC 2008), as well as the agreed framework and parameters, and agreed to instruct the drafting group accordingly.

12.7 The Sub-Committee noted that some of the issues raised in the submissions would entail deviations from the requirements of the NTC 2008 and agreed that the guidelines should not be seen as an alternative to the NTC 2008 but support it. The guidelines should address two main aspects: additional requirements for all marine diesel engines fitted with SCR units in order to comply with the NO_x requirements in regulation 13 of the revised MARPOL Annex VI; and requirements for engines that, due to their size, construction or delivery schedule, could not be tested on a test bed. The guidelines should provide guidance on procedures, calculations and other requirements, in addition to the requirements laid down in the NTC 2008, which may be applicable to cover the scope and to ensure that marine diesel engines will be able to be certified to meet the Tier III NO_x limit. The Sub-Committee agreed to instruct the drafting group accordingly.

12.8 The Sub-Committee did not endorse the proposal by EUROMOT on an optional scheme for testing, survey and certification of large engines fitted with SCR systems, and agreed that document BLG 14/12/5 should not be taken into account by the drafting group.

12.9 A number of delegations expressed concerns that many of the issues raised were substantial in nature and consequently should not be forwarded to a drafting group. The Sub-Committee agreed to instruct the drafting group to identify in its report all issues that would need consideration of substantial matters and therefore would go beyond drafting.

12.10 Following a thorough debate of the different issues, the Sub-Committee agreed on the following:

- .1 there should not be a size threshold in the scope of the guidelines as proposed by the United States in the annex to its submission (BLG 14/12/3);
- .2 that the onboard verification test could cover 50% or more of the load points as proposed by Japan (BLG 14/12/1); and
- .3 that the allowance as a percentage (%) of the applied NO_x limit, i.e. the calculated value (also referred to as the certified composite emission value) to account for deviations from testing on board, should be set to maximum 10%, to be in line with NTC 2008.

12.11 The Sub-Committee noted the following concerns raised orally by the delegation of Norway, and invited Norway and other interested delegations to submit documents providing information and justifications to future sessions:

- .1 whether periodical survey procedures for engines fitted with SCR systems should be covered in the guidelines currently under development or in separate guidelines;
- .2 that a need would exist for ships to demonstrate compliance with the Tier III NO_x limit when operating within an ECA, and that a decision should be made whether it should be covered in the draft guidelines currently under development or in new guidelines. Demonstration of compliance could be by mandating a “Reductant Record Book”, which shall be completed when entering and leaving an ECA or by electronic means as approved by the Administration or through continuous monitoring; and
- .3 that a revision/update of the 2009 Guidelines for port State control under the revised MARPOL Annex VI would be needed to include engines fitted with SCR systems.

12.12 The Sub-Committee agreed to use the draft guidelines proposed in document BLG 14/12/1 (Japan) as the basis for the drafting group, taking into account the above discussions and instructed the drafting group accordingly.

Dry/Wet Correction method for exhaust gas mass flow calculation

12.13 The Sub-Committee considered document BLG 14/12/2 (Japan), providing technical background on a Dry/Wet correction method for exhaust gas mass flow calculations for engines fitted with SCR systems. Japan advocated that Dry/Wet correction for reductant containing 80% of water or more measured by volume should be conducted, based on the formula in paragraph 2.2.1 of the draft proposed guidelines set out in the annex to document BLG 14/12/1, as there is no noteworthy difference in exhaust gas mass volume due to the urea solution when the reductant concentration is above 20%.

12.14 The Sub-Committee noted the view expressed by the delegation of Sweden that, in lieu of the proposed dry/wet correction method for exhaust gas mass flow calculations, an international standard for a marine reductant solution should be developed, and that such a standard would make operation of SCR units smoother for all parties involved. Sweden stated that a number of vessels participating in the Swedish NO_x reduction programme have experienced problems with operation of SCR systems due to impure reductant (urea). The Sub-Committee did not conclude the matter, but invited Sweden and other interested delegations to provide further information and submit documents to future sessions.

12.15 The delegation of the Republic of Korea informed the Sub-Committee that the use of fuels with high sulphur content was not allowed by their national law, even for test purposes, and that DM grade fuels only should be used. The Sub-Committee also noted the information provided by the delegation of United Kingdom that European legislation also prohibited the use of high sulphur fuels but included an exemption for test purposes.

12.16 The Sub-Committee noted that urea-based reductant solutions below 20% concentration were not used in any SCR configurations and were also unlikely to be used in the future, and the need for the proposed dry/wet correction method for exhaust gas mass flow calculations consequently should be considered further. The Sub-Committee agreed to instruct the drafting group to take this into account in its review of the draft guidelines.

Sulphur monitoring

12.17 The Sub-Committee recalled that MEPC 59, based on a request by BLG 13, agreed that, as a consequence of the amendments to the revised MARPOL Annex VI, there was a need to expand sulphur monitoring to all marine fuels covered by the revised Annex VI. The Sub-Committee was instructed to:

- .1 review and recommend changes to the 2009 Guidelines for monitoring the worldwide average sulphur content to the fuels covered by the revised MARPOL Annex VI, taking into account the quantity (in Metric Tons) of each delivery of fuel oil and grouping into the different sulphur limits as required by regulation 14.2; and
- .2 recommend whether low sulphur fuels, according to the Bunker Delivery Note, should be monitored separately and how this can be done.

12.18 Norway, in document BLG 14/12/4, proposed changes to the 2009 Guidelines for monitoring the worldwide average sulphur content (resolution MEPC.183(59)) to expand the monitoring from residual fuels only to all fuels with all sulphur levels required by regulation 14.2 of the revised MARPOL Annex VI (0.10, 0.50, 1.00, 1.50, 3.50 and 4.50%), whether it is residual fuel or distillate.

12.19 Following a brief exchange of views, where overwhelming support for the Norwegian proposal was expressed by those delegations that spoke, the Sub-Committee agreed to the proposed amendments and instructed the drafting group to undertake the necessary amendments.

Guidelines on the provision of reception facilities under MARPOL Annex VI

12.20 The Sub-Committee recalled that the working group at BLG 13, having considered the text of regulation 17.2 of the revised MARPOL Annex VI, agreed to request the Sub-Committee's clarification and decisions on the following:

- .1 should any guidelines that are developed focus on defining "remote port" in order to assist Members in determining if their ports or terminals are "remote" for purposes of complying with regulation 17.2?
- .2 if the answer to .1 above is negative, then should the guidelines focus on providing guidance to Members in ascertaining whether the reception facilities at their ports or terminals are adequate for purposes of handling those wastes identified under regulation 17.1, and to additionally ascertain the adequacy of the alternative measures for reception facilities under regulation 17.2?
- .3 if the answer to .2 above is affirmative, the Sub-Committee is asked to consider the proposed framework in annex 3 to the report of the working group at BLG 13 (BLG 13/WP.3) and decide if it is a reasonable framework for developing such guidelines; and
- .4 should the guidelines be extended to cover other substances linked to MARPOL Annex VI?

12.21 The Sub-Committee had a brief exchange of views and agreed that the matters could not be solved at this session, but that it could possibly be progressed by an intersessional correspondence group, and agreed to consider the issue, taking into account the progress made at this session.

Other guidelines and guidance documents

12.22 The Sub-Committee noted that there were still a number of remaining issues related to the work programme item: review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NTC 2008, as outlined in document BLG 13/13 containing the Sub-Committee's Terms of Reference for this work as agreed by MEPC 58. In accordance with the prioritizing agreed at its last session, the following issues were still outstanding:

- .1 **Category A (High priority)**
 - .1 guidelines on the provision of reception facilities, as required by regulation 17.2;

.2 **Category B (Medium priority)**

- .1 guidelines for replacement engines not required to meet the Tier III limit, as required under regulation 13.2.2;
- .2 guidelines called for under paragraph 2.2.5.6 of the revised NO_x Technical Code 2008 (NO_x reducing devices);
- .3 consider what guidance, if any, should be developed for selective catalytic reduction units or other secondary NO_x control devices;
- .4 consider what guidance, if any, should be developed for water as a primary control measure, emulsification, charge air humidification or direct injection; and
- .5 consider what guidance, if any, should be developed for gas fuels, natural gas or other gases, as well as NO_x Technical Code calculation factors and specific issues relating to the testing of engines so fuelled.

.3 **Category C (Low priority)**

- .1 consider what guidance, if any, should be developed for fuel oils from non-conventional or non-petroleum sources; tar sands, shales, synthetic fuels or bio-diesels from various source materials, as well as NO_x Technical Code calculation factors and specific issues relating to the testing of engines so fuelled and the variations resulting from fuels derived from different sources and/or processing methods.

The need to make progress intersessionally

12.23 Recognizing the extent and complexity of the many outstanding issues and that the work would need to progress intersessionally in order to meet the different entering into effect dates, as well as providing the industry the needed lead time, the Sub-Committee considered a satisfactory way of making progress. The Sub-Committee noted that an intersessional correspondence group may be a feasible option and agreed to revisit the issue following consideration of the report of the drafting group.

Establishment of the Drafting Group

12.24 The Sub-Committee established the drafting group on matters related to MARPOL Annex VI and the NO_x Technical Code, under the chairmanship of Mr. Wayne Lundy (United States) and instructed it as follows:

Taking into account the decisions taken and comments made in plenary, the drafting group was instructed to:

- .1 review and compile the text of the draft Guidelines for certification of marine diesel engines fitted with Selective Catalyst Reduction (SCR) systems, using annex 1 to document BLG 14/12/1 as base document, and in doing so, ensure consistency with the NO_x Technical Code 2008;

- .2 incorporate the agreed changes to the 2009 Guidelines for monitoring the worldwide average sulphur content to the fuels covered by the revised MARPOL Annex VI, taking into account the quantity (in metric tonnes) of each delivery of oil fuel, and also taking into account grouping into the different sulphur limits as required by regulation 14.2; and
- .3 submit a report to plenary on Thursday, 11 February 2010.

Report of the drafting group

12.25 In his introduction of the report, the Chairman of the drafting group highlighted that the group had removed all safety aspects as the guidelines should cover pre-certification and certification procedures and not operational practices; and that full consistency had been sought with the NO_x Technical Code 2008. The group could not finalize the guidelines as a range of substantial issues were still outstanding, in particular, how and if the engine family concept may be applied to engines fitted with SCR after-treatment systems and whether certification of engines and SCR systems separately (Scheme B) would require an amendment to the NTC 2008. In closing, the Chairman expressed his appreciation to the members of the Drafting Group for their constructive and positive approach making the substantial progress possible, and to the Secretariat for their efforts and invaluable contribution to the work of the group.

12.26 During the Sub-Committee review of the drafting group's report, the observer delegation of IMarEST made the following statement:

“Work undertaken on emissions of particulate matter (PM) in road transport discovered formation of secondary PM. This secondary PM was observed to be much higher than primary PM. For information of the delegates of the Sub-Committee, primary PM is formed within the exhaust pipe and appears as PM at discharge to the atmosphere, whilst secondary PM is formed by atmospheric reactions after the exhaust gases have left the exhaust pipe. The cause of this secondary PM was explained as atmospheric reactions between NH₃ and very low concentrations of SO_x (typically emissions from 100ppm sulphur in previous grades of European road transport diesel).

In view of the phenomenon of ‘ammonia slip’, IMarEST would request the Sub-Committee to encourage further input and study into the increase in secondary PM formation that is likely to be occurring due to NH₃ slip and its reaction with SO_x. The possible consequential increase in PM (primary and secondary PM) from the use of SCR technology is a risk and a potential hazard to human health. The issue of PM and its link to human health risk was argued strongly during the revision of MARPOL Annex VI.”

12.27 The delegation of Japan expressed regrets that the Sub-Committee could not finalize the Guidelines for engines fitted with SCR systems at this session, and cautioned that the current uncertainty in the certification process for engines fitted with SCR systems could lead to the need of postponing the full implementation of Tier III in 2016. As called for in the revised MARPOL Annex VI, the Marine Environment Protection Committee will review the status of technological developments and availability of equipment to implement the Tier III standard starting in 2012 (regulation 13.10 of the revised MARPOL Annex VI). In particular, Japan was concerned that if at a later stage it is concluded that it will be necessary to amend the NTC 2008 due to inconsistencies between the requirements of NTC 2008 and the proposed Scheme B for tests of engines and SCR units separately, it could cause a delay in certifying engines fitted with SCR systems in order to meet the Tier III requirements. In view of that, Japan suggested that the

Sub-Committee should report this serious situation to the Marine Environment Protection Committee and seek its authorization for considering necessary consequential amendments to the NTC 2008 when developing the Guidelines at the next session.

12.28 In response to the Japanese concerns, the Chairman summarized the work on the Guidelines at the session and the various options for their finalization: a number of substantial matters were outstanding and in need of further input and consideration, finalization had therefore been impossible at this session, if finalized at the next session the draft guidelines may be considered for adoption by MEPC 62 (July 2011). Finalization at this session would assume that there was no conflict with the NTC 2008 in the proposed Scheme B and could have enabled MEPC 61 to adopt the draft Guidelines. He also clarified that amendments to the NTC 2008 may be proposed by any Party to the 1997 Protocol to MARPOL. In order not to lose time in the event, an amendment to the NTC 2008 will be necessary to allow Scheme B to be implemented. Japan or other interested delegations could submit a proposal for an amendment to MEPC 61 with the view to its approval and consequent circulation. This would enable MEPC 62 to consider the matter and adopt not only the draft guidelines, but also amendments to the NTC if so required.

12.29 Having considered the report of the drafting group (BLG 14/WP.7) on matters related to the revised MARPOL Annex VI and the NO_x Technical Code 2008, the Sub-Committee approved the report in general and, in particular:

- .1 noted that the group did not complete a full review of the text of the draft guidelines for certification of marine diesel engines fitted with Selective Catalyst Reduction (SCR) systems and agreed to continue the review with a view to finalization at BLG 15 and, in that respect:
 - .1 invited Members to submit their views on the need for additional guidelines to cover operational aspects and on how safety concerns related to SCR installations and operations may be addressed;
 - .2 invited Members to submit input on the issues in need of further input as listed in paragraph 13 of document BLG 14/WP.7;
 - .3 invited further input on the issue of ammonia slip;
 - .4 invited further input on whether, and how, the engine family concept may apply also to engines fitted with SCR units;
 - .5 invited further input on the feasibility and appropriate applicability of the proposed Scheme B, taking into account relevant provisions of the NTC 2008;
- .2 noted that the introduction, definitions and the text regarding Scheme B were not reviewed by the group and therefore placed in square brackets;
- .3 noted that the group recommended the establishment of a working group at BLG 15 to facilitate the finalization of the “Draft guidelines addressing additional aspects to the NO_x Technical Code 2008 with regard to particular requirements related to marine diesel engines fitted with selective catalytic reduction (SCR) systems”;

- .4 approved the finalized text to amend the 2009 Guidelines for monitoring the worldwide average sulphur content of residual fuel oils supplied for use on board ships (resolution MEPC.183(59)) and agreed to forward the draft amendments to MEPC 61, with a view to their adoption (set out at annex 9); and, in particular, noted that MEPC 61 should review the draft guidelines, taking into account the updated ISO:8217 Specification of marine fuels, of which the fourth edition is expected to be published in July 2010, to secure consistency;
- .5 requested the Secretariat to investigate any implications for its work from the expansion of the sulphur monitoring programme, including added costs, and report this to the Marine Environment Protection Committee; and
- .6 agreed to request the Marine Environment Protection Committee to extend the target completion date to 2012 (BLG 16) for the work item: Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code 2008.

Establishment of a correspondence group

12.30 The Sub-Committee considered document BLG 14/WP.8, containing a proposal by its Chairman to establish an intersessional Correspondence Group on Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code to progress the work satisfactorily, and also provided proposed Terms of Reference for the group.

12.31 The Sub-Committee agreed to establish a correspondence group under the coordination of the United States*, with the following Terms of Reference:

The Correspondence Group on Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code 2008 is instructed to:

- .1 further develop with a view to finalizing draft guidelines for certification of marine diesel engines fitted with selective catalytic reduction (SCR) systems using text in annex 1 to document BLG14/WP.7 as a basis;
- .2 develop draft guidelines on the provision of reception facilities, as required by regulation 17.2 of MARPOL Annex VI;
- .3 develop draft guidelines called for under paragraph 2.2.5.6 of the revised NO_x Technical Code 2008 (NO_x reducing devices);
- .4 if time allows, develop other guidelines in accordance with the priority list in paragraph 12.22 (of this report); and
- .5 submit a written report to BLG 15.

*

Coordinator:

Mr. Wayne Lundy
Senior Engineer
United States Coast Guard
Systems and Engineering Division
Phone: +1 202 372 1379
E-mail: Wayne.M.Lundy@uscg.mil

13 REVISION OF THE RECOMMENDATIONS FOR ENTERING ENCLOSED SPACES ABOARD SHIPS

13.1 The Sub-Committee recalled that MSC 85 had considered the proposal of DSC 13, suggesting to review and revise, as necessary, the specific provisions of the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)) and, following a discussion on the need to expand the scope of the work to cover other ship types, had agreed to include, in the work programmes of the BLG, DSC, FP and STW Sub-Committees and in the provisional agenda for BLG 14, a high-priority item on “Revision of the Recommendations for entering enclosed spaces aboard ships”, with a target completion date of 2010. The Committee assigned the DSC Sub-Committee as coordinator and instructed BLG 13 to give a preliminary consideration to the matter and to include the item in the provisional agenda for BLG 14.

13.2 The Sub-Committee noted that BLG 13, having preliminarily discussed the matter, had invited Member Governments and international organizations to consider the provisions of the aforementioned Recommendations falling under the purview of this Sub-Committee and to submit relevant proposals for consideration at BLG 14.

13.3 The Sub-Committee also noted that DSC 14 had requested the Secretariat to issue document DSC 14/INF.9 (MAIIF) as a DSC 15 document, which has been issued as DSC 15/10 for consideration at BLG 14, FP 54 and STW 41.

13.4 The Sub-Committee noted the information provided by the Secretariat (document BLG 14/13) regarding the outcome of DSC 14, in particular, the discussion on draft amendments to the Recommendations and to SOLAS regulation III/19 for mandatory training for enclosed space entry and rescue procedures, and that DSC 14 established a correspondence group instructing it to prepare the draft amendments to the Recommendations and make progress on the issues, taking into account the outcomes of the BLG, FP and STW Sub-Committees.

13.5 In dealing with document DSC 15/10 (MAIIF), providing information on enclosed space entry incidents that have occurred since 1998, the Sub-Committee noted that areas of concern identified in the reports of MAIIF members include, *inter alia*:

- .1 lack of knowledge, training and understanding of the dangers of entering enclosed spaces;
- .2 personal protective equipment (PPE) or rescue equipment not being used, not available, of inappropriate type, improperly used, or in disrepair;
- .3 inadequate or non-existent signage;
- .4 inadequate or non-existent identification of enclosed spaces on board;
- .5 inadequacies in Safety Management Systems; and
- .6 poor management commitment and oversight.

13.6 The Sub-Committee also noted that MAIIF had expressed the view that the investigations show that, from many of the casualties investigated, it is evident that training was inadequate, and that the necessary drills were not carried out in the procedures for safe entry and safe rescue from enclosed spaces. Training may remain ineffective if not backed up by a positive management level commitment to managing safety, assessing competence and training needs on board, and developing a safety culture from the company head office to the master, the officers and the ratings.

13.7 Having acknowledged the importance of the information provided by MAIIF in document DSC 15/10, and underlining the need for prompt action by the Organization, the Sub-Committee noted, in this context, the outcome of STW 41 whereby it had agreed to request the Committee to decide whether any additional training was necessary for entry into enclosed spaces after consideration of the reports of sub-committees concerned with this issue and, if so, invite the STCW Conference to include additional training measures in the proposed amendments to the STCW Convention and STCW Code.

13.8 The Sub-Committee, having further briefly discussed the issue, had not proposed any amendments to the Recommendations at this stage. In view of the above, the Sub-Committee considered the work on the item completed and invited the Committee to note the above outcome. However, the Sub-Committee, in recognizing the importance of the issue, would welcome further work on areas where it has special expertise, if such needs are identified by the Committee. The Sub-Committee also encouraged Member Governments and international organizations to take part in the work of the correspondence group established by DSC 14.

14 WORK PROGRAMME AND AGENDA FOR BLG 15

General

14.1 Having noted the adoption of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium (resolution A.1012(26)), the Sub-Committee further noted that the Assembly, recognizing the need for a uniform basis for the application of the Strategic Plan and the High-level Action Plan throughout the Organization, and for the strengthening of existing working practices through the provision of enhanced planning and management procedures, adopted Guidelines on the application of the Strategic Plan and the High-level Action Plan (resolution A.1013(26)). In particular, the Sub-Committee noted that the Assembly requested the Committees to review and revise, during the 2010-2011 biennium, the Committees' Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2) with a view to bringing them in line with the Guidelines on the application of the Strategic Plan and the High-level Action Plan.

14.2 The Sub-Committee was informed that, in pursuance of the above request, the Secretariat, in consultation with the MSC and MEPC Chairmen, had prepared the draft revised Committees' Guidelines for consideration by MSC 87 (MSC 87/23), which also took account of the provisions of the Migration Plan approved by the Council. In this regard, the Sub-Committee, in the context of this item, noted that, while the former format for "work programme" had been replaced by the new format for "biennial agenda" and "post-biennial agenda", the existing format for the reporting on the status of planned outputs was also replaced by the new format and that the Committee Chairmen had agreed to implement the use of the aforementioned new formats from the start of 2010, as set out in annexes 1 and 4 to document BLG 14/WP.2.

Biennial and post-biennial agendas and provisional agenda for BLG 15

14.3 Taking into account the progress made at the current session, the decisions of MSC 86 and MEPC 59, and the provisions of the agenda management procedure, the Sub-Committee prepared biennial agenda and post-biennial agenda, as set out in annex 10, and proposed provisional agenda for BLG 15 (BLG 14/WP.2) for consideration and approval by MSC 87 and MEPC 61, as set out in annex 11. While reviewing the biennial agenda, the Sub-Committee agreed to invite the Committees to:

- .1 note that work on the following outputs has been completed:
 - .1 output 5.2.1.5 – Safety requirements for natural gas hydrate pellets;
 - .2 output 5.2.1.25 – Revision of the Recommendations for entering enclosed spaces aboard ships; and
- .2 extend the target completion for the following planned outputs:
 - .1 output 2.0.1.13 – Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention, to 2012;
 - .2 output 5.2.1.4 – Revision of the IGC Code, to 2014;
 - .3 output 7.1.2.14 – Development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships, to 2012;
 - .4 output 7.2.2.5 – Application of the requirements for the carriage of bio-fuels and bio-fuel blends, to 2011; and
 - .5 output 7.3.1.1 – Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code, to 2012.

Arrangements for the next session

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

- .1 evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments;
- .2 development of provisions for gas-fuelled ships;
- .3 development of guidelines and other documents for uniform implementation of the 2004 BWM Convention and international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships; and
- .4 review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code.

14.5 The Sub-Committee established correspondence groups on the following subjects, due to report to BLG 15:

- .1 development of provisions for gas-fuelled ships;
- .2 development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships; and
- .3 review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code.

Status of planned output

14.6 The Sub-Committee prepared the report on the status of planned outputs contained in the High-level Action Plan of the Organization and priorities for 2010-2011 biennium relevant to the Sub-Committee, set out in annex 2, which the Committees are invited to consider and take action on, as appropriate.

Date of the next session

14.7 The Sub-Committee noted that its fifteenth session had been tentatively scheduled to take place from 7 to 11 February 2011.

15 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2011

15.1 The Sub-Committee, in accordance with the Rules of Procedure of the Maritime Safety Committee and the Marine Environment Protection Committee, unanimously elected Mr. S. Oftedal (Norway) as Chairman, and Mr. R. Zhang (China) as Vice-Chairman, both for 2011.

16 ANY OTHER BUSINESS

Material Safety Data Sheets (MSDS)

16.1 The Sub-Committee reviewed documents BLG 14/16 and BLG 14/16/2, prepared by the Secretariat, which provided feedback from the UN Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS Sub-Committee) in relation to the requirements established for Material Safety Data Sheets (MSDS) for MARPOL Annex I Cargoes and Marine Fuel Oils, adopted by resolution MSC.286(86).

16.2 The GHS Sub-Committee had noted that there are some differences between the IMO specifications for the MSDS and those of the standard GHS format and some GHS delegations, whilst recognizing that some sectors may need to include in the SDS additional information elements relevant to their area, expressed concern about the development of sector specific divergences from the minimum information required by GHS.

16.3 The GHS Sub-Committee had reiterated its view that a harmonized SDS which meets the needs of all sectors should be the goal, but it had indicated that it was open to explore how specific requirements could be taken into account within the framework of the harmonized GHS SDS.

16.4 The Sub-Committee noted that at the last meeting of the GHS Sub-Committee, there had been a proposal that a joint BLG/GHS correspondence group should be established to address this issue and that the GHS Sub-Committee would consider that suggestion on the basis of the outcome of BLG 14 on this matter.

16.5 Following a short debate, the Sub-Committee agreed that since the consideration of the issue had been finalized and, subsequently, deleted from its work programme and agenda by the MSC, there was no possibility to consider the matter further or re-open a debate; and requested the Secretariat to communicate to the GHS Sub-Committee the contents of the agreed IMO MSDS with a view to including the details therein within the GHS SDS.

Grounding of a chemical tanker

16.6 The delegation of France brought the attention of the Sub-Committee to the grounding of chemical tanker **Sichem Osprey**, with 10,000 tonnes of xylene, tallow and soya oil on board, on the coast of Clipperton Island in the Pacific Ocean. The delegation of France highlighted that no casualties had been reported and that the double hull construction of the vessel had ensured that no pollution had occurred.

Outcome of FP 53 – fixed deck foam systems

16.7 The Sub-Committee noted that FP 53, having considered the draft amendments to chapter 14 of the FSS Code, regarding the application of fixed deck foam systems to oil tankers and chemical tankers, agreed that the requirements for chemical tankers in SOLAS and the IBC Code are in need of revision, and proposed that ships carrying flammable chemicals listed in chapters 17 and 18 of the IBC Code should be required to meet the higher IBC Code foam application rates regardless of flashpoint.

16.8 The Sub-Committee further noted that FP 53, subsequently agreed, in principle, to the draft amendments to chapter 14 of the FSS Code, and requested the Secretariat to forward the draft amendments, as well as the outcome of the discussion of the Working Group on Performance testing and approval standards for fire safety systems, to the BLG Sub-Committee for comments before finalization.

16.9 In discussing the proposed draft amendments to chapter 14 of the FSS Code, the Sub-Committee considered that the proposed amendments regarding fixed deck foam systems could imply a new carriage requirement for such a system for those vessels carrying substances listed in chapters 17 and 18 of the IBC Code. In view of the fact that chapter 18 lists substances to which the IBC Code does not apply, vessels carrying such substances need not normally follow the IBC Code.

16.10 The Sub-Committee acknowledged that the aforementioned proposed amendments to the FSS Code may give rise to confusion, on the grounds that the proposed text contains references to the IBC Code and raises potential contradictions with both SOLAS and the IBC Code.

16.11 In this context, the Sub-Committee noted that three points needed to be considered when analysing the proposed amendments:

- .1 chapter 14 of the FSS Code (Fixed deck foam systems) is only applicable to tankers carrying crude oil or petroleum products having a flashpoint not exceeding 60°C and a Reid vapour pressure which is below the atmospheric pressure;
- .2 fixed deck foam systems of tankers carrying cargoes listed in chapter 17 of the IBC Code shall comply with the requirements of chapter 11 of the IBC Code; and
- .3 cargoes listed in chapter 18 of the IBC Code do not require the protection of a fixed foam extinguishing system.

16.12 Having considered the above, the Sub-Committee agreed that the FSS Code should not introduce any requirements concerning the carriage of chemicals covered by the IBC Code. Furthermore, if there is a need to change the carriage requirements for chemicals covered by the IBC Code, this should only be done by amending respective requirements of the IBC Code.

16.13 In view of the above, the Sub-Committee agreed to invite the FP Sub-Committee to hold the inclusion of amendments relating to the IBC Code in the proposed amendments to chapter 14 of the FSS Code until such time as the BLG Sub-Committee would have considered the matter in detail and advise the Sub-Committee as appropriate. The FP Sub-Committee was further requested to supply relevant information regarding the testing of high flash-point chemicals with regard to foam application rates.

16.14 The Sub-Committee, noting that this work would be better done under a separate agenda item, agreed to request the Committee to include an unplanned output in the biennial agenda of the BLG Sub-Committee, and agreed to a justification for the unplanned output, set out in annex 13, for submission to MSC 87 for consideration and action as appropriate.

Expressions of appreciation

16.15 The Sub-Committee expressed appreciation to the following delegates and members of the Secretariat, who had recently relinquished their duties, retired or were transferred to other duties or were about to, 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:

- Admiral Carlos Saraiva Ribeiro of Brazil, on retirement;
- Mr. Jesper Loldrup of Denmark, on return home;
- Mr. Niels Bjorn Mortensen, who has been representing BIMCO for many years and will be taking up new duties with a shipping company.

17 ACTION REQUESTED OF THE COMMITTEES

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

- .1 approve, subject to MEPC 61's concurrent decision, the future work programme for an intersessional meeting of the ESPH Working Group in October 2010 (paragraph 3.14.8);
- .2 approve, subject to MEPC 61's concurrent decision, the holding of an intersessional meeting of the ESPH Working Group in 2011 (paragraph 3.14.9);
- .3 note that the Sub-Committee agreed to review the text of chapter 19 of the IBC Code to be incorporated into the next revision of the IBC Code and endorsed the ESPH Working Group's proposals with respect to understanding a systematic review of chapters 17 and 18 of the IBC Code (paragraphs 3.14.5 and 3.14.6);
- .4 consider the justification for, and approve the expansion of the scope of the item on "Development of provisions for gas-fuelled ships" as well as the change of the title of the item to "Code of safety for ships using gas or other low-flash point fuels with properties similar to liquefied natural gas" (paragraph 6.10 and annex 7);
- .5 approve the draft MSC circular on Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk (paragraph 11.5.1 and annex 8);
- .6 note the view that, after the finalization of the revision of the IGC Code, the Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk should be revised, with a view to developing definitive Guidelines, taking into consideration the requirements of the revised IGC Code (paragraph 11.5.3);
- .7 note that the Sub-Committee, at this stage, has proposed no amendments to the Recommendations for entering enclosed spaces aboard ships; however, in recognizing the importance of the issue, it would welcome further work in areas where it has expertise if such needs are identified by the Committee (paragraph 13.8);
- .8 note, the biennial and post-biennial agendas of this Sub-Committee approve the revised target completion dates and approve, subject to MEPC 61's concurrent decision, the draft provisional agenda for BLG 15 (paragraph 14.3 and annexes 10 and 11);
- .9 note the report on the status of the planned outputs of the High-level Action Plan relating to the Sub-Committee's work (paragraph 14.6 and annex 12);

- .10 note the outcome of the Sub-Committee's consideration of amendments to the FSS Code regarding the application of fixed deck foam systems to oil tankers and chemical tankers and consider the justification for, and approve the inclusion of an unplanned output on "Fixed deck foam systems for ships carrying liquid substance as listed in IBC Code" in the Sub-Committee's biennial agenda (paragraphs 16.14 and annex 13); and
 - .11 approve the report in general.
- 17.2 The Marine Environment Protection Committee, at its sixty-first session, is invited to:
- .1 endorse the action taken by the Sub-Committee following consideration of the report of ESPH 15 (paragraph 3.3);
 - .2 note the Sub-Committee's agreement that Shale oils should be regarded as MARPOL Annex I cargo (paragraph 3.14.1);
 - .3 note that the Sub-Committee concurred with the evaluation of cleaning additives (paragraph 3.14.3);
 - .4 note the Sub-Committee's agreement to review the text of chapter 19 of the IBC Code and that this should be incorporated into the next revision of the IBC Code (paragraph 3.14.5);
 - .5 note that the Sub-Committee endorsed the ESPH Working Group's proposals with respect to undertaking a systematic review of chapters 17 and 18 of the IBC Code (paragraph 3.14.6);
 - .6 note the proposed actions to develop a draft BLG circular summarizing decisions relating to the evaluation of new products (paragraph 3.14.7);
 - .7 approve the future work programme for an intersessional meeting of the ESPH Working Group in October 2010 (paragraph 3.14.8);
 - .8 approve, subject to MSC 87's concurrent decision, the holding of an intersessional meeting of the ESPH Working Group in 2011 (paragraph 3.14.9)
 - .9 endorse the action taken by the Sub-Committee following consideration of the issue of bio-fuels and bio-fuel blends by the ESPH Working Group (paragraph 4.17) as follows:

The Sub-Committee:
 - .1 agreed with the conclusions of the Group for the development of new guidelines to control the shipment of bio-fuel/petroleum oil blends;
 - .2 agreed that a three-band system will be retained with a cut-off limit of 25% bio-fuel for Band 1 carriage under MARPOL Annex I conditions;
 - .3 agreed that when Band 2 bio-fuel blends with an excess of 25% bio-fuels are carried they will be treated as Annex II products with generic carriage conditions assigned;

- .4 endorsed the view of the Group to request the FP Sub-Committee to advise on the use of alcohol-resistant foams when carrying ethanol/gasoline blends;
- .5 noted the definitions for “in port” and “blending in port” as proposed by the Group and the request for any additional views or information on this issue to be made available for the next ESPH meeting;
- .6 agreed that certification for individual components when loaded in the same port to produce a blend, are not required and that only a certificate permitting the carriage of the blended product is needed;
- .7 noted the discussions on the development of mandatory provisions to prohibit the blending of MARPOL cargoes on board during the sea voyage and the proposed draft text developed by the Chairman for further discussion at ESPH 16;
- .10 approve the “Framework for determining when a Basic Approval granted to one BWMS may be applied to another system that uses the same Active Substance or Preparation” (paragraph 5.35.1 and annex 3), and to request the Secretariat to issue a BWM circular on this matter;
- .11 approve the Guidance for Administrations on the type approval process for ballast water management systems in accordance with Guidelines (G8) (paragraph 5.35.2 and annex 4), and to request the Secretariat to issue a BWM circular on this matter;
- .12 extend the target completion date for the agenda item “Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention” to the year 2012 (paragraph 5.35.5);
- .13 note that the Sub-Committee agreed with the revised Action Plan to develop the remaining documents needed for uniform implementation of the BWM Convention (paragraph 5.35.7 and annex 6);
- .14 note that the Sub-Committee, having noted the progress made in the development of Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species, had agreed to re-establish the intersessional correspondence group (paragraph 9.18);
- .15 note that the Sub-Committee could not complete a full review of the draft Guidelines for certification of marine diesel engines fitted with Selective Catalyst Reduction (SCR) systems and agreed to continue the review with a view to finalization at BLG 15 (paragraph 12.29.1);
- .16 consider, with a view to adoption, draft amendments to the 2009 Guidelines for monitoring the worldwide average sulphur content of residual fuel oils supplied for use on board ships (resolution MEPC.183(59) noting that MEPC 61 should review the draft Guidelines taking into account the updated ISO:8217 specification (paragraph 12.29.4 and annex 9);

- .17 note that the Sub-Committee requested the Secretariat to investigate any implications for its work from the expansion of the sulphur monitoring programme, including added costs, and report this to the Committee;
- .18 extend the target completion date to 2012 for the work item on Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code 2008 (paragraph 12.29.6);
- .19 note the biennial and post-biennial agendas of the Sub-Committee and approve subject to MSC 87's concurrent decision, the draft provisional agenda for BLG 15 (paragraph 14.3 and annexes 10 and 11);
- .20 note the report on the status of the planned outputs of the High-level Action Plan of the Organization relating to the Sub-Committee's work (paragraph 14.6 and annex 12); and
- .21 approve the report in general.

ANNEX 1

**CARGO TANK CLEANING ADDITIVES EVALUATED AND FOUND TO MEET THE REQUIREMENTS OF
REGULATION 13.5.2 OF MARPOL ANNEX II**

Name of cleaning additive	Name of manufacturer	Reporting country	Evaluated in accordance with MEPC.1/Circ.590
Alkaclean	UNI Americas LLC	USA	X
BUFFERSOL	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
C CLEAN NEO	JohnsonDiversey Co., Ltd.	Japan	X
CEMENT REMOVER	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
CHEMTEC ZnHCR	CHEMTEC Chemicals GmbH	Germany	X
DESCALER LIQUID 555	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
ER-AC	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
ER-AC PLUS	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
ER-APC	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
ER-CLEAN SAFETY	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
ER-OGR	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
FALCHEM AQUASOLVE	Enerchem (s) Pte Ltd	Singapore	X
FALCHEM CITRUS KLEEN	Enerchem (s) Pte Ltd	Singapore	X
FALCHEM ENVIROCLEAN	Enerchem (s) Pte Ltd	Singapore	X
FALCHEM NEUTRAL CLEANER	Enerchem (s) Pte Ltd	Singapore	X
FALCHEM SOLVATE OIL AND GREASE EMULSION	Enerchem (s) Pte Ltd	Singapore	X
FALCHEM TANKLEEN	Enerchem (s) Pte Ltd	Singapore	X
Genepol	UNI Americas LLC	USA	X
GENERAL CLEANING & SOLVENT	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
Grato 50 marine	Henkel Belgium N.V.	Belgium	X
Grato 50 marine (US)	Henkel Belgium N.V.	Belgium	X
Hydrocarbon Remover	UNI Americas LLC	USA	X
KT-AlkaPure	CHEMTEC Chemicals GmbH	Germany	X
LIME CLEANER	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
MARICLEAN DG-25	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
MARICLEAN PCS	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
NOHYCAS (hydro carbon cleaner)	For Frame	Netherlands	X
Novaclean 300 marine	Henkel Belgium N.V.	Belgium	X
Novaclean 400 marine	Henkel Belgium N.V.	Belgium	X

Name of cleaning additive	Name of manufacturer	Reporting country	Evaluated in accordance with MEPC.1/Circ.590
OIL AND GREASE REMOVER	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece	X
P3-glin	Henkel Belgium N.V.	Belgium	X
P3 grato 14BNL	Henkel Belgium N.V.	Belgium	X
Grato 14 marine	Henkel Belgium N.V.	Belgium	X
P3-x vloeibaar	Henkel Belgium N.V.	Belgium	X
SUPER TEEPOL	JohnsonDiversey Co., Ltd.	Japan	X
T 1166 marine	Henkel Belgium N.V.	Belgium	X
T 1166 marine (US)	Henkel Belgium N.V.	Belgium	X
TANK CLEANER	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
TANK CLEANER EXTRA	ERTEK KIMYA TIC. VE SAN. LTD. STI	Turkey	X
TEEPOL EIGHT	JohnsonDiversey Co., Ltd.	Japan	X
Uniclean HD	UNI Americas LLC	USA	X
Uniclean IG	UNI Americas LLC	USA	X
WB Neutral HCF	UNI Americas LLC	USA	X

ANNEX 2**DRAFT TEXT FOR THE PROPOSED REGULATION TO PROHIBIT THE BLENDING
OF MARPOL CARGOES ON BOARD DURING THE SEA VOYAGE**

“The physical blending on board of MARPOL cargoes during the sea voyage to create new products is prohibited. Physical blending refers to the process whereby the ship’s cargo pumps and pipelines are used to internally circulate two or more different cargoes with the intent to achieve a cargo with a different product designation. This prohibition does not preclude the Master from undertaking cargo transfers for the safety of the ship or protection of the marine environment”.

ANNEX 3

FRAMEWORK FOR DETERMINING WHEN IT IS APPROPRIATE TO USE THE BASIC APPROVAL GRANTED TO ONE BALLAST WATER MANAGEMENT SYSTEM FOR ANOTHER SYSTEM USING THE SAME ACTIVE SUBSTANCE OR PREPARATION

1 INTRODUCTION

1.1 The “Procedure for approval of ballast water management systems that make use of Active Substances (G9)” (Procedure (G9)) provides that, subject to evaluation against the criteria developed by the Organization, an Active Substance or Preparation may be used for Prototype or Type Approval testing for the approval of different ballast water management systems (BWMS).

1.2 The objective of this document is to provide guidance for the manufacturers and the Administration, and for other interested parties, in preparing an application based on the use of an original Basic Approval and, for its subsequent evaluation by the GESAMP-BWWG for Final Approval according to Procedure (G9).

1.3 An Active Substance or Preparation should be identical to the Active Substance or Preparation that has already received Basic Approval and its treatment concentration should be less than or equal to the original Basic Approval. In addition, any recommendations by the MEPC for the Basic Approval, including neutralization and maximum allowable discharge concentration (MADC) considerations, should be applied.

1.4 The document provides a framework including criteria to enable direct comparison of the physical nature of the system, the chemical nature of the Active Substance or Preparation, and the legal and commercially sensitive nature of the information and data being transferred.

1.5 When considering an application, the use of an Active Substance or Preparation should be substantially similar to the original application that has gained Basic Approval, as this needs to be considered in the context of the BWMS within which it is used. This is because of the way different systems use the Active Substance or Preparation, that may change the nature of the Active Substance or Preparation itself. For example, hydrogen peroxide can be used as a chemical treatment on its own or as a catalyst in combination with a secondary method.

1.6 Any BWMS that has been granted approval to use a Basic Approval from another system is still subject to the Final Approval process as set out in Procedure (G9).

1.7 Any BWMS seeking to use the Basic Approval from another system should also meet conditions or requirements placed on the original Basic Approval by the Committee.

1.8 Before considering the development of an application to use a Basic Approval from another system, an applicant should consider that the less similarity between the two systems, the more data that will need to be supplied to evaluate the application.

2 DEFINITIONS

For the purpose of this guidance, the definitions in Procedure (G9) apply and:

2.1 “**Applicant**” means any manufacturer or developer working with the Member State or Administration, in the development of a BWMS that intends to use the original Basic Approval for a certain Active Substance in the development of BWMS.

2.2 “**Substantially similar**” means in relation to “use” of an Active Substance or Preparation means the method of application and point of injection of the Active Substance or Preparation to the BWMS are not significantly different to that in the system granted approval.

3 PROCEDURE TO BE FOLLOWED

3.1 The manufacturer seeking to use an original Basic Approval for a BWMS that makes use of an Active Substance or Preparation for the purpose of obtaining a subsequent Final Approval for a BWMS using the same Active Substance or preparation, should evaluate the extent to which the BWMS meets the criteria specified in this guidance document.

3.2 Proof that legal issues have been properly dealt with should be provided to the Administration by the manufacturer seeking to use the original approval.

3.3 The Administration having received a submission to use an original Basic Approval should review the application, taking into account the guidance in this document. If the Administration is satisfied that such utilization is acceptable, it should advise the Organization of its determination as appropriate. The Organization should circulate the information accordingly.

3.4 The Administration should submit the application for Final Approval to the Organization, as soon as possible in accordance with section 8.2 of Procedure (G9).

3.5 If the GESAMP-BWWG agrees that the application is complete and appropriate, it should proceed to consider the application for Final Approval of the BWMS.

3.6 If the GESAMP-BWWG finds that the application is not complete or is inappropriate, (or both), the GESAMP-BWWG should report their findings, as provided for in Procedure (G9), for consideration by the Committee.

3.7 Under Procedure (G9), the Committee of the Organization will make the final decision on whether to accept the recommendations of the GESAMP-BWWG to reject an approval of any proposal.

4 CRITERIA FOR ASSESSING WHETHER THE ACTIVE SUBSTANCES OR PREPARATIONS ARE IDENTICAL

4.1 The description of Active Substances and Preparations should include chemicals associated with the system, as required by the Procedure (G9) in section 4.1 and listed in detail in relevant sections of the GESAMP-BWWG Methodology, applicable at the time of this assessment.

4.2 If any of the identified chemicals is not listed in the original Basic Approval application, then utilization of Basic Approval is not appropriate.

4.3 The stated concentrations for storage, generation and treatment, as appropriate, of the Active Substances and Preparations should be equal to or less than those in the original Basic Approval application.

4.4 The maximum allowable discharge concentration or the worst case discharge concentration should be equal to or less than those in the original Basic Approval application.

4.5 Analytical data about the composition and structure of the Active Substances or Preparations should be provided to substantiate that the Active Substances and Preparations are identical.

5 MANNER OF APPLICATION OF ACTIVE SUBSTANCE OR PREPARATION

5.1 The BWMS design should be substantially similar including all physical processes used in the system: including method or methodology for dosing ballast water, any mechanical separation used, pumps and pipe work, phase of treatment (e.g., on uptake, discharge or both) and any necessary neutralization.

5.2 Application of the Active Substance and Preparation within the BWMS should be substantially similar, including:

- point of introduction of the Active Substance or Preparation; and
- method of application or generation of the Active Substance or Preparation (e.g., electrolytic generation).

6 GUIDANCE ON LEGAL ISSUES

6.1 A legally binding agreement under which access to information within an original Basic Approval is granted could include:

- .1 name and address of the person to whom the Basic Approval rights are being shared;
- .2 identification of each item of Basic Approval data being shared including:
 - .1 the name of the Active Substance and Preparation or item of data;
 - .2 whether the agreement is an exclusive use agreement, and, if so, when the period of exclusive use protection expires;
 - .3 the name of the person or laboratory that conducted the study;
 - .4 a statement that the applicant and approval holder understand that any false statement may be punishable under international, national or local legislation;

- .5 the names, signatures and titles of the applicant and the approval holder, and the date signed; and
 - .3 in addition, the approval holder should submit to the Administration a notarized statement affirming that the person signing the agreement is authorized by the approval holder to bind the applicant.
- 6.2 The manufacturer seeking to use the Basic Approval for a BWMS that makes use of an Active Substance or Preparation for the purpose of Final Approval, should ensure that all relevant international, national and local legislation has been complied with.

ANNEX 4

GUIDANCE FOR ADMINISTRATIONS ON THE TYPE APPROVAL PROCESS FOR BALLAST WATER MANAGEMENT SYSTEMS IN ACCORDANCE WITH GUIDELINES (G8)

1 PURPOSE

1.1 This document provides guidance for Administrations on the procedure for evaluating an application for Type Approval of a ballast water management system (BWMS) in accordance with the Guidelines for approval of ballast water management systems (G8). This document can act as an *aide-memoire* for Administrations and is not intended, in any way to interfere with the authority of an Administration.

1.2 This document provides guidance on interpretation of Guidelines (G8) and does not replace or supersede the requirements of those Guidelines.

1.3 This document is intended to provide guidance to Administrations on the details of the Type Approval to be reported to the Committee.

2 KEY DOCUMENTS

2.1 In evaluating an application for Type Approval of a BWMS, the latest version of the following documents should be consulted:

- The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the BWM Convention);
- Guidelines for approval of ballast water management systems (G8);
- Procedure for approval of ballast water management systems that make use of Active Substances (G9);
- Guidelines for ballast water sampling (G2);
- Guidance to ensure safe handling and storage of chemicals and preparations used to treat ballast water and the development of safety procedures for risks to the ship's crew resulting from the treatment process;
- Resolution MEPC.175(58) – Information reporting on type approved ballast water management systems;
- Methodology for information gathering and the conduct of work of the GESAMP-BWWG; and
- Other pertinent ballast water resolutions, guidance and circulars.

3 RECOMMENDATIONS FOR REQUIREMENTS OF MANUFACTURERS OR THEIR AGENTS

3.1 To facilitate Type Approval of a BWMS, the Administration should ensure that the manufacturers, or their agents have, at minimum:

- .1 been informed if the Administration delegates to or utilizes the services of a third party quality assurance organization (e.g., Recognized Organization, nominated body, classification society, surveyors, etc.) in some, or all of the Type Approval processes;
- .2 understood the steps and requirements of the processes outlined in the documents listed in section 2 of this document;
- .3 a fully working system built that can be used in the Type Approval process. It should be noted that the construction procedures and materials for the unit tested need to be the same as for the follow-on production units;
- .4 undertaken preliminary testing to ensure that their BWMS is viable, will meet the D-2 standard of the BWM Convention, will work on board a ship and that the system has been determined not to pose any unacceptable risk to the environment;
- .5 understood the extent of testing that needs to be completed by a recognized testing facility, including toxicity analysis;
- .6 provided a description of the preliminary test to the Administration that should at least include the following:
 - .1 the test set-up, including sampling points;
 - .2 responsible persons/organizations for all or portions of the preliminary testing;
 - .3 possible Quality Management Plan (QMP) of the testing facility;
 - .4 testing laboratories that will be used;
 - .5 Quality Assurance Project Plan (QAPP) for the preliminary test; and
 - .6 provision for survey of the test facility if required;
- .7 provided a detailed report of the preliminary test results including, at least:
 - .1 toxicity data;
 - .2 Active Substances if relevant; and
 - .3 any other chemicals generated during the process;

- .8 an understanding of whether the system under consideration, uses an Active Substance, as defined in the BWM Convention. If it utilizes an Active Substance, the system will require additional approval under Procedure (G9), whilst systems not using an Active Substance only need approval under Guidelines (G8);
- .9 a contractual agreement to undertake the shipboard testing needed under Guidelines (G8) with the owner of a suitable ship;
- .10 arranged for a trained person to be present at the land-based testing facility to operate the equipment being type approved and ensure that for the shipboard test the ship's crew is familiar with the equipment and sufficiently trained to operate the equipment;
- .11 consulted with the classification society that the ship undertaking the shipboard testing is being registered, where necessary, and obtained approval for installation of the BWMS;
- .12 demonstrated by using mathematical modelling and/or calculations or by full-scale shipboard testing, that any up or down scaling will not affect the ultimate functioning and effectiveness on board a ship of the type and size for which the equipment will be certified;
- .13 prepared a Type Approval application in compliance with the Guidelines (G8), annex, part 1, that includes at least the following:
 - .1 detailed description of the design, construction, operation and functioning of the BWMS;
 - .2 preliminary assessment of the corrosion effects of the system proposed;
 - .3 preliminary test results;
 - .4 technical Manual;
 - .5 BWMS piping and instrumentation diagram (P&ID);
 - .6 link to the provisions required in a ballast water management plan;
 - .7 environmental and public health effects; and
 - .8 specific salinities to be tested;
- .14 clarified the following, when submitting the Type Approval application:
 - .1 verification of the operating ranges (e.g., flow rate, pressure drop, salinities, etc.);
 - .2 verification of the Treatment Rated Capacity (TRC); and

.3 suggestions for improvements of the installation related to safety or additional testing R&D;

.15 made test results and documentation available to the Administration as requested.

4 RECOMMENDATIONS FOR FACILITATING A TYPE APPROVAL EVALUATION

4.1 For those Administrations using third party quality assurance organizations, due care should be taken to ensure all such arrangements are in place prior to initiating the Type Approval programme.

4.2 The Administration should provide the applicant with a document outlining contact details, the expected amount of time between submission and decision and any other requirements separate from the procedures and requirements outlined in the documents listed in section 2 of this document.

4.3 The Administration should verify that any recommendations made by the Committee during Basic and Final Approval have been addressed prior to issuing the Type Approval Certificate. In accordance with resolution MEPC.175(58), the Administration should submit the final report of land-based and shipboard tests with the notification of type approval to the IMO. The reports should be available to Member States.

4.4 The Administration may certify a range of the BWMS capacities employing the same principles and technology, but due consideration should be given to limitations on performance which might arise from scaling up or scaling down.

4.5 The Administration should in particular review Standard Operating Procedures (SOP) for which an international standard has not been established yet.

5 APPROVAL PROCESS

5.1 Under the provisions of the BWM Convention, a BWMS is to be approved in accordance with Guidelines (G8) and, where appropriate, Procedure (G9).

5.2 The Administration should verify that the following issues have been specifically addressed by the manufacturer and, if the evaluation of the system is carried out by a third party organization, these issues should be relayed to the Administration to enable a decision:

.1 a comprehensive explanation of the physical and/or biochemical treatment processes used by the BWMS to meet the D-2 Standard in the BWM Convention. This should be undertaken by the manufacturer and any supporting data should be submitted in writing. Any system which makes use of, or generates, Active Substances, Relevant Chemicals, or free radicals during the treatment process to eliminate organisms in order to comply with the Convention should be submitted to the Organization for review under the Procedure (G9) (Procedure (G9), paragraph 3.3);

- .2 the decision on whether a BWMS makes use of an Active Substance or not remains the prerogative of the responsible Administration. In making that determination, Administrations should take into account relevant GESAMP-BWWG recommendations and Committee decisions as to whether a system should be subject to approval under Procedure (G9). When an Administration is unsure of whether a BWMS is subject to the Procedure (G9) it may choose to submit such system for review under that Procedure (G9) (MEPC 59/24, paragraph 2.16);
- .3 for BWMSs that the Administration determines are not subject to Procedure (G9), as provided in paragraphs 2.3.6 and 2.3.30.4 of the annex to Guidelines (G8), the toxicity testing procedures in paragraphs 5.2.2 to 5.2.7 of Procedure (G9) should be used when the system could reasonably be expected to result in changes to the treated water such that adverse impacts to receiving waters might occur upon discharge;
- .4 the approval documents should include a piping and instrumentation diagram (P&ID) with parts list and material specification. Furthermore, wiring diagrams, function description of the control and monitoring equipment and description of regulator circuit of the BWMS;
- .5 information on the preliminary testing (methodology, test water composition, salinities tested, sampling, analysis laboratories, etc.);
- .6 accreditation of the Guidelines (G8) land-based testing facility or body including their quality management plan (QMP) and quality assurance project plan (QAPP) to be used by the manufacturer for land-based testing;
- .7 approval and subsequent verification of the design, construction, operation and functioning of the equipment used for land-based and shipboard testing;
- .8 approval and subsequent verification of the land-based and shipboard test methodology, including the composition of the test water, and specific salinities to be tested which should be in line with Guidelines (G8), Procedure (G9) and the Methodology for information gathering and the conduct of work of the GESAMP-BWWG as appropriate (waiver for multiple testing required);
- .9 approval and subsequent verification of the methodology used to take and store samples, the laboratory testing, the frequency of sampling, and the analysis procedure for samples from land-based and shipboard testing;
- .10 approval and subsequent verification of the design, construction, operation and functioning of the equipment used for testing;
- .11 if the system is using an Active Substance, then the applications for Final Approval will have to be checked and approved by the Administration prior to making a proposal for approval to the Organization. In addition, the cost-recovery fee for the scientific services provided by the GESAMP-BWWG will have to be submitted;

- .12 a safety assessment of the storage and handling of any chemicals is undertaken and approved in line with the technical guidance developed by the Organization;
- .13 a safety assessment of the operation of the BWMS, specifically any potential impact on the crew is undertaken and approved in line with the technical guidance developed by the Organization;
- .14 all electrical equipment used to operate the BWMS should be of a certified safety type required by the applicable national or international standard in respect of the hazardous areas where it is located; and
- .15 results of environmental testing as specified in Part 3 of the annex to the Guidelines (G8).

5.3 For issuance of the Type Approval Certificate, the Administration should set the following requirements and provisions:

- .1 the validity of the approval should be revisited as appropriate;
- .2 in due time before the expiration of the approval, the manufacturer should prepare a report detailing the experiences with the system, including the results of any scientific research relevant to the system, as well as any results of port State controls, if available;
- .3 the occurrence of any unexpected harmful consequences of the operation of the BWMS should be reported by the manufacturer to the Administration immediately;
- .4 the Type Approval Certificate should specify one specific TRC that is the maximum continuous flow rate for which the system is approved;
- .5 Type Approval Certificate should indicate clearly the specific water parameters in which the testing was undertaken, e.g., the salinity, temperature, pH and TSS in the type approval process as per Guidelines (G8);
- .6 the Type Approval Certificate should specify the components of the BWMS that are type approved, including the manufacturer of each component; their operating ranges, including temperature, specific salinity and specify the possibility to use other similar components (like filters for example) and the criteria for allowing such use;
- .7 a separate Type Approval Certificate should be provided for each type or model of the BWMS. However, if Administrations wish to do otherwise, it is recommended that the different types and models are clearly stated, the test each type and model has undergone clearly referred to with test results, operating ranges, salinity, TRC, etc.;
- .8 all accidents (e.g., accidental exposure, leakage) related to the BWMS should be reported;

- .9 any indications that the system is not performing up to the standards set by the BWM Convention, the guidelines and/or any additional provisions set by the Administration should be reported by the manufacturer to the Administration immediately;
- .10 the Administration should have the opportunity to revoke the approval if these requirements are not met; and
- .11 MSC circular MSC.1/Circ.1221 – “Validity of Type Approval Certification for marine products” should apply.

6 REPORTING OF THE TYPE APPROVAL

6.1 The Administration should forward a report of the Type Approval process to the Organization (resolution MEPC.175(58)).

6.2 In particular, where under Procedure (G9), the Final Approval has been granted with recommendations by the GESAMP-BWWG, evidence that these recommendations have been satisfactorily addressed at Type Approval should be provided to the Organization. The report should specify the findings of the Administration together with any non-confidential information according to Procedure (G9).

ANNEX 5**PROVISIONAL TERMS OF REFERENCE FOR THE BALLAST WATER
AND BIO-FOULING WORKING GROUP TO BE ESTABLISHED AT BLG 15**

The Ballast Water and Bio-fouling Working Group is instructed to:

- .1 develop an IMO circular to provide ballast water sampling and analysis protocols and to give advice on the uniform application of these protocols;
- .2 finalize the “Procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the BWM Convention”, using document BLG 14/5/1 as a base document;
- .3 time permitting, consider the need for standardized protocols to be used by testing facilities involved in the approval of ballast water management systems and advise the Sub-Committee accordingly;
- .4 develop a guidance document on “Scaling of ballast water management systems employing UV disinfection and filtration”, using document BLG 14/5/3 as a starting point;
- .5 finalize the draft “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”;
- .6 finalize the draft MEPC resolution for the adoption of the “Guidelines for the control and management of ships’ bio-fouling to minimize the transfer of invasive aquatic species”;
- .7 time permitting, consider the appropriate time frame, criteria and process for evaluating the effectiveness of the Guidelines once adopted; and
- .8 submit a written report on the work carried out, including recommendations to MEPC 62, for consideration by the Sub-Committee.

ANNEX 6

ACTION PLAN FOR UNIFORM IMPLEMENTATION OF THE BWM CONVENTION

SUBJECT	REF.	CURRENT STATUS	TYPE OF ACTION	TIMELINE
Framework for determining when a Basic Approval granted to one ballast water management system may be applied to another system that uses the same Active Substance or Preparation	MEPC 57, para. 2.50.4	BLG 14 completed the work on the guidance document	MEPC 61* approves the guidance document regarding application of Basic Approval granted to one applicant to another applicant using the same Active Substance at MEPC 59 and instructs the Secretariat to issue a BWM circular	October 2010
Type approval of ballast water management systems	MEPC 58, para. 2.50	BLG 14 completed the work on the guidance document	MEPC 61 approves the guidance document regarding type approval of ballast water management systems and instructs the Secretariat to issue a BWM circular	October 2010
Ballast water sampling and analysis protocols	MEPC 58, para. 2.43	Members and observers to submit their future contributions to the development of the IMO circular, taking into consideration the <i>aide-memoire</i> developed by the Group	Input from Member States and other interested parties invited Sub-Committee to develop the Ballast water sampling and analysis protocols at BLG 15 (BWWG needed) MEPC 62 approves the Ballast water sampling and analysis protocols and instructs the Secretariat to issue a BWM circular	March 2010 to December 2010 February 2011 October 2011
Procedure for assessing other methods of BWM	Reg. B-3.7 BWM C	BLG 14/5/1 as a starting point	Sub-Committee to develop the Procedure for assessing other methods of BWM at BLG 15 (BWWG needed) MEPC 62 adopts the Procedure for assessing other methods of BWM by an MEPC resolution	February 2011 July 2011
Standardized protocols to be used by testing facilities involved in the approval of ballast water management system	BLG 13/18, para. 5.19.5	Due to the time constraints, this item could not be addressed at BLG 14	GloBallast Partnerships Project to pursue this aspect and inform the Sub-Committee as appropriate Comments and views from Member States and other interested parties are invited	March 2010 to December 2011
Scaling of ballast water management systems during type approval	BLG 14/17, para. 5.13	Using document BLG 14/5/3 as a starting point	Comments and views from Member States and other interested parties are invited Sub-Committee starts to develop the Procedure for assessing other methods of BWM at BLG 15 (BWWG needed)	March 2010 to December 2011

* Subject to prior consideration by the GESAMP-Ballast Water Working Group.

ANNEX 7

JUSTIFICATION FOR THE EXPANSION OF THE SCOPE OF THE WORK ON DEVELOPMENT OF PROVISIONS FOR GAS-FUELLED SHIPS TO INCLUDE SHIPS FUELLED BY LOW FLASH-POINT LIQUID FUELS

Background

1 When it was decided to develop provisions for gas-fuelled ships, this was primarily on the basis of a need explained by the industry to have adequate regulations and guidelines for ships fuelled with natural gas. Due to the urgency of the development of provisions for ships using natural gas as fuel, it was decided on a two-step approach. The first step was to develop Interim Guidelines for ships using natural gas as fuel other than gas carriers, only addressing internal combustion engines. This work has now been finalized and resolution MSC.285(86) “Interim Guidelines on safety for natural gas-fuelled engine installations in ships” has been adopted. The second step is to develop a safety code that also addresses other gases and consumers. The decision to include other gases and consumers was made in anticipation that other gases will be used as fuel.

Scope of the proposal

2 It is proposed to expand the scope of the current work programme item “Development of provisions for gas-fuelled ships” to also include provisions for low flash-point liquid fuel. It is also proposed to change the planned output to “Code of safety for ships using gas or other low flash-point fuels with similar properties to liquefied natural gas”. As part of the scope, the fuels to be addressed need to be identified (e.g., methanol and ethanol for combustion purposes).

Compelling need

3 In relation to the ongoing general discussion related to fuel quality, air emissions and limited availability of low-sulphur fuels, the possibility of alternative cleaner burning fuels, such as methanol and ethanol, should be addressed by the Code. Such fuels will help to reduce emissions of sulphur and CO₂ and, in some cases, NO_x and particulates from shipping. Bearing in mind the similarities between these flammable liquids and gases, they should be considered during the development of the IGF Code. Since low flash-point fuels are currently not addressed in any IMO instrument and as it is anticipated that these liquid fuels will be used in the future, IMO should also be at the forefront of this development.

Cost to the maritime industry, legislative and administrative burdens

4 It is anticipated that the proposal will not add any costs to the industry. As for legislative and administrative burdens, once the regulations are in place it will ease the administrative burden.

Benefits

5 As described in paragraph 3, there will be environmental benefits, in particular reduction of CO₂ emission. It will also be beneficial for the industry to have globally implemented regulations that will make approval of such technology consistent. The proposal will also give more flexibility in design and operation. In addition, as stated above, the administrative burdens will be reduced.

Priority and target completion date

6 As this is a proposal to expand an existing work programme item and it is not anticipated that the inclusion of low flash-point liquid fuels will delay the work, the priority and target completion date will follow the original timescale.

Is the subject within the scope of IMO?

7 Yes.

Relation to the scope of the Strategic Plan and High-level Action Plan

8 The scope is within Strategic Direction 5.2 and High-level Action 5.2.1.

Do adequate industry standards exist?

9 There are no internationally-agreed industry standards specific for the shipping industry.

Do the benefits justify the proposed action?

10 Yes.

ANNEX 8**DRAFT MSC CIRCULAR****INTERIM GUIDELINES FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS
CARRYING NATURAL GAS HYDRATE PELLETS (NGHP) IN BULK**

- 1 The Maritime Safety Committee, at its [eighty-seventh session (12 to 21 May 2010)], having considered the proposal by the Sub-Committee on Bulk Liquids and Gases, at its fourteenth session, approved the Interim Guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk, set out in the annex, to provide the basis for determining the detailed requirements for such ships by relevant administrations.
- 2 The Committee, noting that the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) is under review by the Sub-Committee on Bulk Liquids and Gases, agreed to review the Interim Guidelines after the finalization of the revision of the Code.
- 3 Member Governments are invited to bring the annexed Interim Guidelines to the attention of all parties concerned.

ANNEX

INTERIM GUIDELINES FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING NATURAL GAS HYDRATE PELLETS (NGHP) IN BULK

1 SCOPE

These Interim Guidelines provide the information on appropriate safety measures for ships solely intended for the carriage of natural gas hydrate pellets (NGHP) in bulk (NGHP carriers). For this purpose, these Interim Guidelines provide information on the appropriate application of the requirements of the IGC Code to NGHP carriers. Persons in charge of the design, construction and operation of NGHP carriers are invited to consult these Interim Guidelines.

2 APPLICATION

For the purpose of these Interim Guidelines, the provisions of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), as adopted by the Maritime Safety Committee of the Organization by resolution MSC.5(48), as amended by resolutions MSC.17(58), MSC.30(61), MSC.32(63), MSC.59(67), MSC.103(73), MSC.177(79) and MSC.220(82), apply to the design, construction and operation of NGHP carriers, unless expressly provided otherwise.

3 DEFINITIONS

For the purpose of these Interim Guidelines, unless expressly provided otherwise, the following definitions should apply.

3.1 *Natural gas hydrate pellets (NGHPs)* means artificially formed pellets of “natural gas hydrate”. Natural gas hydrate is a crystalline solid which consists of molecules of natural gas (mainly methane) each surrounded by a cage of water molecules.

3.2 *International Gas Carrier Code (IGC Code)* means the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk as adopted by the Maritime Safety Committee of the Organization by resolution MSC.5(48), as amended by resolutions MSC.17(58), MSC.30(61), MSC.32(63), MSC.59(67), MSC.103(73), MSC.177(79) and MSC.220(82).

3.3 *Cargo hold* is a space intended for the stowage of NGHPs.

3.4 *Cargo hold cover space* is a space above cargo holds which may be filled with natural gas.

3.5 *Cargo hold cover* is a structure constituting cargo hold cover space for maintaining gas-tightness.

3.6 *Gas machinery room* is a space containing equipment for natural gas handling.

3.7 *Hatchway cover* is a cover for the opening of a cargo hold, which provides gas-tightness between a cargo hold and a cargo hold cover space, as necessary.

3.8 *MARVS* is the maximum allowable relief valve setting of a cargo hold.

3.9 *Area classification (Zones 0, 1 and 2)* is based on the standard IEC 60079 (Electrical apparatus for explosive gas atmospheres).

4 GENERAL REQUIREMENTS

4.1 Evaluation of properties of NGHPs

Prior to shipment, properties of NGHPs should be evaluated through procedures approved by the competent authority. In the evaluation, average dissociation rate during the voyage should be estimated based on data obtained through a test. The composition of gases contained in the NGHPs should be clarified. The possible lowest cargo temperature should be estimated taking into account the planned cargo temperature range at the time of loading and the temperature drop due to dissociation during the voyage.

4.2 Risk assessment

The design and operation of the NGHP carrier should be evaluated by risk analysis early in the design process. Hazard identification should be carried out based on the design. At a minimum, due consideration should be given to the risks owing to fire and explosion related to cargo holds, cargo handling systems, other systems related to cargo and special features of the NGHP carrier.

4.3 Survey and certificate of integrity of cargo containment systems

Prior to construction of an NGHP carrier, a programme for the survey of cargo-related systems should be established by the Administration. The programme should determine the detailed procedure for survey including tests during construction and at the time of completion. The structural integrity of NGHP carriers, in particular of cargo-related systems, should be certified by the Administration based on the results of the survey.

4.4 Ship survival capability and location of cargo holds

4.4.1 The requirements of chapter 2 of the IGC Code, i.e. ship survival capability and location of cargo tanks, should apply to NGHP carriers with the following conditions:

- .1 the NGHP carrier is regarded as “A type 2G/2PG ship”; and
- .2 “cargo tank” reads “cargo hold”.

4.4.2 The requirements in chapter 2 of the IGC Code need not apply to cargo hold cover spaces. In other words, a cargo hold cover may be a single-skin construction*. Cargo hold cover spaces should be located at least 760 mm inboard from the outermost moulded lines of the weather deck.

* Double skin construction of a cargo hold cover may cause fire/explosion in the intermediate space in the structure and makes it difficult to survey the structure for maintaining integrity.

4.5 Cargo containment system

4.5.1 NGHPs may be carried in cargo holds of “integral tank” type as defined in paragraph 4.2.1 of the IGC Code provided that the structures of cargo holds are evaluated through analyses taking into account thermal stresses neglecting insulation inside the cargo holds.

4.5.2 A secondary barrier is not required for cargo containment systems for NGHPs.

Note: The requirements for cargo containment systems of types other than “integral type” may be considered later, as necessary.

4.6 Design loads and supporting structures

4.6.1 Design loads should be determined based on the methods accepted by the Administration, taking into account the representative loading conditions and reasonably worst ship motion. The provisions in paragraph 4.3 of the IGC Code need not apply to NGHP carriers.

4.6.2 Supporting structures for cargo containment systems should be designed based on the methods accepted by the Administration, taking into account the various loads acting on the structures. The provisions in paragraph 4.6 of the IGC Code need not apply to NGHP carriers.

4.7 Materials for cargo holds and ship’s structure

The materials for cargo holds and ship’s structure may be determined based on the recognized standards for ships carrying cargoes with low temperature. The provisions in paragraph 4.9 of the IGC Code need not apply to NGHP carriers.

4.8 Minimum requirements (IGC Code, chapter 19)

The requirements for “Methane (LNG)” specified in chapter 19 of the IGC Code should apply to NGHP carriers, except that NGHP carriers may be of “A type 2PG ship”.

4.9 Requirements for spaces containing cargo handling systems other than cargo holds

The following requirements should apply to spaces containing mechanical cargo handling systems other than cargo holds.

4.9.1 *Materials*

The materials for the structure of the spaces should be in accordance with recognized standards for the design temperature. The design temperature for the materials should be calculated for the design conditions accepted by the Administration.

4.9.2 *Design pressure*

The design pressure of an enclosed space should be the maximum value of the following:

- .1 MARVS of relevant cargo holds; or

- .2 for an enclosed space which may be segregated from all pressure relief valves, an envisaged maximum pressure at the ambient temperature, at the discretion of the Administration, under the assumption that the total amount of NGHPs on the cargo handling system in the space dissociate and the natural gas is contained in the space.

In this context, the provision of paragraph 5.2.3.3 of the IGC Code, i.e. the requirement of design pressure for process pressure vessels and piping, need not apply to spaces containing cargo handling systems on NGHP carriers.

4.9.3 *Gas-tightness of joints*

Gas-tightness of all joints between gas-tight spaces should be kept to the satisfaction of the Administration.

4.9.4 *Means of closure for openings of gas-tight spaces*

Means of closure should be provided for all openings of the spaces to prevent unexpected ingress or outflow of gases or air. Each means of closure should have remote control function, at the discretion of the Administration, and be capable of being opened and shut at the position of the means of closure.

4.9.5 *Testing*

The pressure test and other non-destructive tests for welded parts should be conducted, as necessary, at the discretion of the Administration.

4.10 Requirements for cargo handling systems

The following requirements should apply to cargo handling systems.

4.10.1 *Materials*

The materials for cargo handling systems should be in accordance with recognized standards for the design temperature. The design temperature for the materials should be calculated for the design condition accepted by the Administration.

4.10.2 *Securing*

All moving parts of cargo handling systems should be adequately secured to the NGHP carrier during voyage to prevent damage to the ship. Securing devices should be provided in accordance with the established securing plan for the cargo handling systems.

4.10.3 *Emergency shutdown*

4.10.3.1 At least one set of emergency shutdown systems should be provided for the cargo handling systems. Activation of the shutdown systems should be controlled at a continuously manned station during cargo handling. An established shutdown procedure should be followed automatically or by remote control, following activation of the shutdown system. Cargo handling should be stopped automatically in case of activation of the emergency shutdown systems.

4.10.3.2 Appropriate means should be provided to suspend cargo handling. Suspension of cargo handling should be controlled at a continuously manned station during cargo handling.

4.10.3.3 In the case that a cargo hold cover space is filled with natural gas, temperatures of all moving parts of the cargo handling system in the space should be monitored, and the threshold temperature should be determined, based on the ignition temperature of natural gas.

4.10.3.4 Cargo handling should be suspended in the case that one of the following situations takes place:

- .1 ingress of air to a space filled with natural gas is detected;
- .2 pressure of the spaces containing the cargo handling system becomes below atmospheric pressure; or
- .3 monitored temperature of any part of the cargo handling system exceeds the threshold.

In the context of ingress of air, the recommended alarm level is 30% of the Lower Explosive Limit (LEL).

Note: The LEL of air in methane is 85%, i.e. the complementary value of the Upper Explosive Limit (UEL) of methane in the air (15%). Thus, 30% of LEL means 25.5% air and the recommended alarm level of oxygen concentration is 5.4%, i.e. 21% of air concentration.

In the context of temperature, the recommended threshold is 450°C, i.e. the ignition temperature criterion “T1” in standard IEC 60079 (Electrical apparatus for explosive gas atmospheres), taking into account that the temperature class of methane is “T1”.

4.11 Stability precaution

If the cargo flows freely like grain^{*}, the cargo should be carried according to the provisions applicable to the stowage of grain cargoes. The bulk density of the cargo shall be taken into account when determining the scantlings and securing arrangements of divisions and bin bulkheads and the stability effect of free cargo surfaces.

5 DETAILED APPLICATION OF REQUIREMENTS OF THE IGC CODE

5.1 General

5.1.1 Unless expressly provided in these Interim Guidelines, the requirements for “cargo tanks” in the IGC Code should apply to “cargo holds” on NGHP carriers.

5.1.2 Unless expressly provided in these Interim Guidelines, the requirements for “cargo pump-rooms and cargo compressor rooms” in the IGC Code should apply to “gas machinery room”.

* The cargo is considered non-cohesive, having an angle of repose less than, or equal to, 30°. Refer to section 5 of the International Maritime Solid Bulk Cargoes (IMSBC) Code.

5.1.3 For the purpose of these Interim Guidelines:

- .1 “Boil-off vapours” and “cargo vapour” should be read as “dissociated gases”; and
- .2 “Boiling point of the cargo” should be read as “the envisaged lowest cargo temperature”.

5.2 Requirements in the IGC Code not applicable to NGHP carriers

The requirements in the IGC Code, listed in table 1 of these Interim Guidelines, need not apply to NGHP carriers. Table 1 does not refer to the requirements not relevant to NGHP carriers, including the following:

- .1 requirements for types 1G and 3G ships; and
- .2 requirements for cargo holds of types other than “integral tank”.

5.3 Modification/clarification of the requirements in the IGC Code

The requirements in the IGC Code, listed in table 2 of these Interim Guidelines, should apply to NGHP carriers with modification/clarification specified in table 2. Table 2 does not refer to the modification of “PREAMBLE”.

5.4 Additional requirements for NGHP carriers

In addition to the relevant requirements in the IGC Code other than that specified in paragraph 3 of these Interim Guidelines, and as modified in accordance with paragraph 5 in these Interim Guidelines, the requirements listed in table 3 should apply.

Note: Tables 1 to 3 should be reviewed after the revision of the IGC Code.

6 SPECIAL DESIGN FEATURE AND REQUIREMENTS

6.1 The installation of a special enclosed room for electro-hydraulic units^{*}, which should be filled with inert gas, near the “reclaimer unit” (on “trolley”) has been considered in order to avoid using a flexible high-pressure oil piping system of extraordinary length, while placement of high-voltage electric power cables in the natural gas atmosphere (Zone 0) is indispensable in that case. In the case that a special enclosed room for electro-hydraulic units is installed, special requirements for high-voltage electric power cables in the natural gas atmosphere (Zone 0) may have to be developed.

6.2 Furthermore, the use of ballast tanks of NGHP carriers for dissociated water after dissociation of NGHPs has been considered^{**}. Such water probably contains natural gas and the dissolved gas may be emitted from the water by temperature rise during voyage. In this context, special requirements for prevention of explosion should be developed to permit such use of ballast tanks.

* Refer to the Conceptual design of a natural gas hydrate pellet carrier (paragraph 2 in the annex to document BLG 13/12/1).

** Refer to the Conceptual design of a natural gas hydrate pellet carrier (paragraph 5 in the annex to document BLG 13/12/1).

Table 1 – List of requirements of the IGC Code which need not apply to NGHP carriers

IGC Code paragraph number	Note
1.1.2 to 1.1.4.1	These application provisions are not applicable to NGHP carriers.
1.1.6 to 1.1.8	These application provisions are not applicable to NGHP carriers.
1.5.4 to 1.5.6	The provisions for certificate is not necessary at this stage for the reason that NGHP carriers will be designed and constructed, based on the agreement of relevant authorities, at first.
3.1.5.3 and 3.1.5.4	Cargo handling systems for NGHP carriers will be completely different from cargo handling systems for liquid.
3.5.3.1.1	Provision for “direct access” from the open deck to cargo holds is not applicable to NGHP carriers.
3.7.2.1	This requirement is applicable only to liquid cargoes.
3.7.4	This provision allows the connection of ballast piping to pumps in the machinery spaces. Ballast pumps should be located outside the machinery spaces, similar to on oil tankers, for the reason that ballast tanks are situated adjacent to cargo holds of “integral tank” type on NGHP carriers (see table 3).
4.10.16	Inspection for cold spots is not effective for NGHP carriers.
5.2.3.3	Refer to paragraph 3.9 of these Interim Guidelines.
6.2	The requirements for materials in the IGC Code are not suitable for NGHP carriers (see table 3).
8.2.18	The Guidelines for the evaluation of the adequacy of type C tank vent systems (resolution A.829(19)) is not applicable to NGHP carriers.
8.3	“Liquid level control” is not necessary because NGHPs are in solid form.
13.2 and 13.3	The requirements for “level indicators for cargo tanks” and “overflow control” are not applicable to NGHP carriers.
15	The requirements for “filling limits for cargo tanks” are not applicable to NGHP carriers.

Table 2 – Modification/clarification of requirements of the IGC Code for the application to NGHP carriers

IGC Code paragraph number	Modification/Clarification
1.1.1	<p>The paragraph should read as follows:</p> <p>“The Code applies to ships regardless of their size, including those of less than 500 gross tonnage, engaged in carriage of NGHPs when carried in bulk.”</p>
1.3.6	<p>The first sentence of the paragraph should read as follows:</p> <p>““Cargo area” is that part of the ship which contains the cargo containment system and gas machinery room, cargo handling system, cargo hold cover space and includes deck areas over the full length and breadth of the part of the ship over the above-mentioned spaces.”</p>
1.3.9	<p>The paragraph should read as follows:</p> <p>““Cargoes” are NGHPs.”</p>
1.3.11	<p>The paragraph should read as follows:</p> <p>““Cargo hold” is the gas-tight shell designed to be the primary container of the cargo and includes all such containers whether or not associated with insulation or secondary barriers or both.”</p>
2.6.1.2	<p>The following text is added at the end of the paragraph:</p> <p>““Shell plating” means outer hull other than bulkhead deck. Therefore, a cargo hold cover may be a single skin construction and the cargo holds may constitute the weather deck.”</p>
2.7.2	<p>The paragraph should read as follows:</p> <p>“Permeability of cargo space should be determined by a competent authority.”</p>
3.1.2	<p>The paragraph should read as follows:</p> <p>“Where cargo is carried in a cargo containment system not requiring a secondary barrier, segregation of hold spaces from spaces referred to in paragraph 3.1.1 of the IGC Code or spaces either below or outboard of the hold spaces, other than cargo hold cover space, may be effected by cofferdams, fuel oil tanks or a single gas-tight bulkhead of all-welded construction forming an A-60 class division. A gas-tight A-0 class division is satisfactory if there is no source of ignition or fire hazard in the adjoining spaces (see table 3).”</p>

IGC Code paragraph number	Modification/Clarification
3.1.5.1	<p>The paragraph should read as follows:</p> <p>“Any piping system and cargo handling system which may contain cargo or dissociated gas should be segregated from other piping systems, except where interconnections are required for cargo-related operations such as purging, gas-freeing or inerting. Notwithstanding this requirement, fire lines and other piping systems essential for safety need not be segregated from such a cargo handling system. In such cases, precautions should be taken to ensure that cargo or cargo vapour cannot enter such other piping systems through the interconnections (see table 3).”</p>
3.1.5.2	<p>The paragraph should read as follows:</p> <p>“Any piping system which may contain cargo or cargo vapour should, except as provided in chapter 16 of the IGC Code, not pass through any accommodation space, service space or control station or through a machinery space other than a gas machinery room.”</p>
3.7.4	<p>The paragraph should read as follows:</p> <p>“Any piping in a space adjacent to a cargo hold should not be connected to pumps in a machinery space.”</p>
4.3	Refer to paragraph 3.6 of these Interim Guidelines.
4.6	Refer to paragraph 3.6 of these Interim Guidelines.
4.9	Refer to paragraph 3.7 of these Interim Guidelines.
5	Refer to paragraph 3.9 of these Interim Guidelines.
8.5	<p>The paragraph should read as follows:</p> <p>“The capacity of the pressure relief valve for each cargo hold should be determined, to the satisfaction of the Administration, based on the anticipated dissociation rate of NGHPs, taking the following conditions into consideration: (1) dissociation heat of NGHPs; (2) ambient temperature; (3) insulation of the cargo hold.”</p>
9.1.2	<p>The paragraph should read as follows:</p> <p>“A sufficient number of gas monitoring instruments should be provided for each cargo hold in order to adequately monitor the progress of purging and gas-freeing.”</p>

IGC Code paragraph number	Modification/Clarification
11.1.2	<p>The paragraph should read as follows:</p> <p>“All sources of ignition should be excluded from spaces where flammable vapour may be present except as otherwise provided in chapters 10 and 16 of the IGC Code and in spaces not containing air/oxygen maintaining positive pressure.”</p>
11.2 to 11.4	<p>Fire safety systems for cargo areas on NGHP carriers should be determined based on the properties of NGHPs and envisaged accident scenarios, taking into account the requirements in these paragraphs of the ICG Code.</p>
11.5.1	<p>The paragraph should read as follows:</p> <p>“The gas machinery room of any ship should be provided with a fixed fire extinguishing system at the discretion of the Administration. A notice should be exhibited at the controls stating that the system is only to be used for fire-extinguishing and not for inerting purposes, due to the electrostatic ignition hazard. The alarms referred to in regulation II-2/5.1.6 of the 1983 SOLAS amendments should be safe for use in a flammable cargo vapour-air mixture. For the purpose of this requirement, an extinguishing system should be provided which would be suitable for machinery spaces. However, in the case that a carbon dioxide system is used, the amount of carbon dioxide gas carried should be sufficient to provide a quantity of free gas equal to 45% of the gross volume of the gas machinery room in all cases.”</p>
12.1.2	<p>The paragraph should read as follows:</p> <p>“Mechanical ventilation inlets and outlets should be arranged to ensure sufficient air movement through the space to avoid the accumulation of flammable or toxic vapours and to ensure a safe working environment, but in no case should the ventilation systems have total capacity of less than 30 changes of air per hour based upon the total volume of the space. As an exception, gas-safe cargo control rooms may have eight changes of air per hour.</p>
13.1.1	<p>The first sentence of the paragraph should read as follows:</p> <p>“Each cargo hold should be provided with means for indicating the pressure and temperature of the gas.”</p>
13.5.1	<p>The paragraph should read as follows:</p> <p>“Each cargo hold should be provided with at least one device for indicating gas temperatures. The temperature-indicating devices should be marked to show the lowest temperature for which the cargo hold has been approved by the Administration.”</p>

IGC Code paragraph number	Modification/Clarification
13.6.11	The first sentence of the paragraph should read as follows: “In the case of flammable products, where cargo containment systems other than independent tanks are used, hold spaces, cargo hold cover space and interbarrier spaces should be provided with a permanently installed gas detection system capable of measuring gas concentration of 0% to 100% by volume.”
16.1.1	The paragraph should read as follows: “Methane (NGHP) is the cargo whose dissociated gas may be utilized in machinery spaces of category A and in such spaces may be utilized only in boilers, inert gas generators, combustion engines and gas turbines.”
18.2.1	The paragraph should read as follows: “The master should ascertain that the quantity and characteristics of each product to be loaded are within the limits indicated in the Loading and Stability Information booklet (as provided for in paragraph 2.2.5 of the IGC Code).”

Table 3 – Additional requirements for NGHP carriers

IGC Code paragraph number	Additional requirement
3.1.2 (New text)	Cargo hold cover space and cargo holds should be separated by A-0 class deck and hatchway covers which are resistant to fire and liquids and provide gas-tightness between these spaces, to the satisfaction of the Administration.
3.1.5.1 (New text)	Any piping system which does not contain cargo or cargo vapour, such as a fire main piping system, should be protected from ingress of natural gas into the piping system to the satisfaction of the Administration.
3.5.5 (New paragraph)	<p>Any access way having doors should not be fitted on the cargo hold cover space unless all the following arrangements are provided:</p> <ul style="list-style-type: none"> .1 the access way is designed for the dedicated purpose of providing access to inside the cargo hold cover space from the open space on a weather deck and not used for the other purpose; .2 the access way is provided with double-entry doors which are gas-tight, made of steel and self-closing type without holding back arrangements; .3 an interlock system is provided to prevent both doors being opened simultaneously; and .4 an audible and visual alarm system is provided to indicate if more than one door is moved from the closed position and the alarm system gives a warning on both sides and inside the access way. <p>Note: “Bolted cover” is not an access door.</p>
4.2.7 (New text)	Refer to paragraph 3.1 of these Interim Guidelines.
4.10.1.1 (New text)	Welded joints of the longitudinal inner side plating and inner bottoms of cargo holds should be of the butt weld, full penetration type. For connections among longitudinal inner side plating and transverse bulkheads near engine-rooms and fore construction, longitudinal inner side plating and upper deck should be the tee welds of the full penetration type.
4.10.6 (New text)	Gas-tightness of the cargo hold cover and at the hatchway covers should be tested to the satisfaction of the Administration.

IGC Code paragraph number	Additional requirement
6.2 (New text)	All materials of construction should be approved by the Administration.
6.3.6.1 (New text)	For all cargo holds, production weld tests should generally be performed for approximately each 50 m of butt weld joints and should be representative of each welding position. Tests, other than those specified in paragraph 6.3.6.4 of the IGC Code, may be required for cargo holds at the discretion of the Administration.
6.3.7.1 (New text)	Full penetration butt welds of the inner plating of cargo holds should be subjected to radiographic inspection at the discretion of the Administration.
8.2.1 (New text)	A cargo hold cover space should be provided with pressure relief devices complying with recognized standards.
9.2.1 (New text)	A shipboard inert gas generation system or shipboard inert gas storage which should be sufficient for normal consumption for at least 30 days should be installed to inert cargo holds and cargo hold cover space.
12.1.2 (New text)	A gas machinery room situated below the weather deck should be provided with at least two sets of ventilation systems having separated power source.
13.5.3 (New text)	If a cargo hold is provided with a cooling system, the cargo hold boundaries should be fitted with a sufficient number of thermometers to establish that an unsatisfactory temperature gradient does not occur.
13.6.15 (New paragraph)	Notwithstanding the requirements in section 13.6 of the IGC Code, a fixed gas monitoring system of other type, e.g., a system based on remote sensing technology, may be installed in lieu of the fixed gas monitoring equipment required by this section, at the discretion of the Administration, provided that the reliability and effectiveness of the system is not inferior to those of the equipment required by this section.

IGC Code paragraph number	Additional requirement
13.7 (New paragraph)	<p>Detection of oxygen</p> <p>13.7.1 Where a mechanical cargo handling system is installed in a cargo hold cover space, oxygen detection equipment acceptable to the Administration should be provided for continuous monitoring of oxygen level.</p> <p>13.7.2 Audible and visual alarms from the oxygen detection equipment, if required by this section, should be located on the navigating bridge, in the control position required by paragraph 13.1.3 of the IGC Code, and at the gas detector readout location.</p> <p>13.7.3 Oxygen detection equipment may be located in the control position required by paragraph 13.1.3 of the IGC Code, on the navigating bridge or at other suitable locations.</p> <p>13.7.4 Oxygen detection equipment should be so designed that it may readily be tested. Testing and calibration should be carried out at regular intervals. Suitable equipment and span gas for this purpose should be carried on board. Where practicable, permanent connections for such equipment should be fitted.</p> <p>13.7.5 A permanently installed system of oxygen detection should be provided for cargo holds and vicinity of doors on cargo hold cover.</p> <p>13.7.6 For the spaces listed in paragraph 13.7.5 of the IGC Code, audible and visual alarms should be activated in the control positions at the threshold concentration determined by the Administration.</p>
18.4.3.1 (New text)	<p>Where insulation is provided inside a cargo hold, special fire precautions should be taken in the event of hot work carried out in the vicinity of the cargo hold. For this purpose, gas absorbing and de-absorbing characteristics of the insulation material should be taken into account.</p>

ANNEX 9

**DRAFT REVISED GUIDELINES FOR MONITORING THE WORLDWIDE
AVERAGE SULPHUR CONTENT OF FUEL OILS SUPPLIED FOR
USE ON BOARD SHIPS****Preface**

1 The primary objective of the Guidelines is to establish an agreed method to monitor the average sulphur content of fuel oils supplied for use on board ships taking into account the different sulphur limits as required by regulation 14 of the revised MARPOL Annex VI.

Introduction

2 The basis for these Guidelines is provided in regulation 14.2 of the revised Annex VI of MARPOL and in Conference Resolution 4 (in MP/CONF.3/35), on monitoring the worldwide average sulphur content of residual fuel oil supplied for use on board ships, and document MEPC 59/24. Among the emissions addressed by Annex VI are emissions resulting from the combustion of fuels containing sulphur. An upper limit for the sulphur content of fuels was set and it was further decided to monitor the average sulphur content of fuel.

3 The independent testing companies analyse over 100,000 samples annually, which cover between 25% and 35% of all deliveries. From the data gathered by these testing services, the current average figures for the sulphur content of residual fuels can be derived. These figures are publicized regularly and are currently in the order of 2.4% by mass¹.

Definitions

4 For the purpose of these Guidelines the following definitions should apply:

(1) *Residual fuel:*

Fuel oil for combustion purposes delivered to and used on board ships with a kinematic viscosity at 40°C greater than 14 centistokes² (mm²/s).

(2) *Distillate fuel:*

Fuel oil for combustion purposes delivered to and used on board ships with a kinematic viscosity at 40°C greater than or equal to 1.4 mm²/s and lower than or equal to 14 centistokes² (mm²/s).

(3) *Provider of sampling and testing services:*

A company that, on a commercial basis, provides testing and sampling services of bunker fuels delivered to ships for the purpose of assessing quality parameters of these fuels, including the sulphur content.

¹ See document MEPC 59/4/1.

² Reference is made to ISO Standard 8217, 2005.

(4) *Reference value A_{wr} :*

The value of the worldwide average sulphur content in residual fuel oils supplied for use on board ships, based on the first three years of data collected and as determined on the basis of paragraphs 5 to 11 of these Guidelines.

(5) *Reference value A_{wrECA} :*

The value of the worldwide average sulphur content in residual fuel oils supplied for use on board ships in ECA-SO_x, based on the first three years of data collected and as determined on the basis of paragraphs 5 to 11 of these Guidelines.

(6) *Reference value A_{wd} :*

The value of the worldwide average sulphur content in distillate fuel oils supplied for use on board ships, based on the first three years of data collected and as determined on the basis of paragraphs 5 to 11 of these Guidelines.

(7) *Reference value A_{wdECA} :*

The value of the worldwide average sulphur content in distillate fuel oils supplied for use on board ships in ECA-SO_x, based on the first three years of data collected and as determined on the basis of paragraphs 5 to 11 of these Guidelines.

Monitoring and calculation of yearly and three-year rolling average

Monitoring

5 Monitoring should be based on calculation of average sulphur content of residual and distillate fuels on the basis of sampling and testing by independent testing services. Every year the average sulphur content of residual and distillate fuels should be calculated. After three years the reference value for monitoring will be set as described in paragraph 11.

Calculation of yearly average

6 At the basis of monitoring is the calculation, on an annual basis, of the average sulphur content of residual and distillate fuel.

7 The calculation of the average sulphur content is executed as follows:

For a certain calendar year, the sulphur contents of the samples analysed (one sample for each delivery of which the sulphur content is determined by fuel oil analysis) are recorded. The sulphur contents of the samples analysed are multiplied by the corresponding mass of fuel added up and then divided by the total mass of bunker analysed. The outcome of that division is the average sulphur content of residual and distillate fuel for that year.

8 As a basis for well-informed decisions a graphical representation of the distribution of the global sulphur content in residual fuels in terms of the % sulphur in increments of 0.5% sulphur and sulphur content in distillate fuels in terms of the % sulphur in increments of 0.1% sulphur plotted against the quantity of fuel associated with each incremental sulphur content range should be made available by 31 January of each year.

9 The mathematical formula for the method of calculation described is given in the appendix to these Guidelines.

Three-year rolling average

10 A three-year rolling average should be calculated as follows:

$$A_{cr} = (A_{c1} + A_{c2} + A_{c3})/3$$

in which:

A_{cr} = rolling average S-content of all deliveries tested over a three-year period

A_{c1}, A_{c2}, A_{c3} = individual average S-contents of all deliveries tested for each year under consideration

A_{cr} is to be recalculated each year by adding the latest figure for A_c and deleting the oldest.

Setting of the reference value

11 The reference value of the world wide average sulphur content of residual and distillate fuel oils supplied for use on board ships should be A_{wx} , where $x=r, r_{ECA}, d, d_{ECA}$ and $A_{wx} = A_{cr}$ as calculated in January of the year following the first three years in which data were collected on the basis of these Guidelines. A_w should be expressed as a percentage.

Providers of sampling and testing services

12 There are presently three providers of sampling and testing services under these Guidelines.

13 Any additional providers of sampling and testing services will be approved by the MEPC in accordance with the following criteria:

- .1 be subject to the approval of the Marine Environment Protection Committee, which should apply these criteria;
- .2 be provided with a technical and managerial staff of qualified professionals providing adequate geographical coverage and local representation to ensure quality services in a timely manner;
- .3 provide services governed by a documented Code of Ethics;
- .4 be independent as regards commercial interest in the outcome of monitoring;
- .5 implement and maintain an internationally recognized quality system, certified by an independent auditing body, which ensures reproducibility and repeatability of services which are internally audited, monitored and carried out under controlled conditions;

- .6 take a significant number of samples on an annual basis for the purpose of globally monitoring average sulphur content of residual fuels.

Standardized method of calculation

14 Each of the providers of sampling and testing services should provide the necessary information for the calculation of the average sulphur content of the residual and distillate fuels to the Secretariat of IMO or another agreed third party on the basis of a mutually agreed format, approved by MEPC. This party will process the information and will provide the outcome in the agreed format to MEPC. From the viewpoint of competitive positions the information involved should be considered sensitive.

APPENDIX

CALCULATION OF AVERAGE SULPHUR CONTENT BASED ON QUANTITY

Note: wherever “all deliveries“ are mentioned, this is meant to refer to all deliveries sampled and tested for sulphur and being taken into account for the purpose of monitoring.

Calculation weighted for quantity

$$A_{cj} = \frac{\sum_{i=1}^{i=N_j} a_i \cdot m_i}{\sum_{i=1}^{i=N_j} m_i}$$

in which:

- A_{cj} = the average sulphur content of all deliveries sampled world wide in year j
- a_i = the sulphur content of individual sample for delivery i
- N_j = total number of samples taken in year j
- m_i = the mass of fuel with a sulphur content of a_i .

ANNEX 10

**BIENNIAL AGENDA AND POST-BIENNIAL AGENDA
OF THE BLG SUB-COMMITTEE**

BIENNIAL AGENDA*

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)					
PLANNED OUTPUTS 2010-2011 (resolution A.1012(26))		Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
Number	Description				
1.1.2.2	Consideration of IACS unified interpretations	MSC/MEPC		BLG	Continuous
2.0.1.13	Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention	MEPC	BLG		2010 2012
5.2.1.3	Development of provisions for gas-fuelled ships (in cooperation with FP and DE)	MSC	BLG	FP and DE	2012
5.2.1.4	Revision of the IGC Code (in cooperation with FP, DE, SLF and STW, as necessary)	MSC	BLG	FP, DE, SLF and STW	2010 2014
5.2.1.5	Safety requirements for natural gas hydrate pellet carriers	MSC	BLG		2011
5.2.1.25	Revision of the Recommendations for entering enclosed spaces aboard ships (coordinated by DSC)	MSC	DSC	BLG and STW	2010
7.1.2.14	Development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships	MEPC	BLG		2010 2012

* Items printed in bold letters have been selected for the provisional agenda for BLG 15 shown in annex 11. Struck-out text indicates proposed deletions and the shaded text below the headers show proposed additions or changes.

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)					
PLANNED OUTPUTS 2010-2011 (resolution A.1012(26))		Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
Number	Description				
7.2.2.4	Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments	MEPC	BLG		Continuous
7.2.2.5	Application of the requirements for the carriage of bio-fuels and bio-fuel blends	MEPC	BLG		2010 2011
7.3.1.1	Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code	MEPC	BLG		2010 2012
12.3.1 12.1.2.2	Casualty analysis (coordinated by FSI)	MSC	FSI	BLG	Continuous

POST-BIENNIAL AGENDA

SUB-COMMITTEE ON BULK LIQUIDS AND GASES								
ACCEPTED POST-BIENNIAL OUTPUTS				Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Timescale (sessions)	Remarks
Number	Reference to Strategic Directions	Reference to High-level Actions	Description					

ANNEX 11

PROPOSED PROVISIONAL AGENDA FOR BLG 15

- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments
- 4 Application of the requirements for the carriage of bio-fuels and bio-fuel blends
- 5 Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention
- 6 Development of provisions for gas-fuelled ships
- 7 Casualty analysis
- 8 Consideration of IACS unified interpretations
- 9 Development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships
- 10 Revision of the IGC Code
- 11 Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code
- 12 Work programme and agenda for BLG 16
- 13 Election of Chairman and Vice-Chairman for 2012
- 14 Any other business
- 15 Report to the Committees

ANNEX 12

REPORT ON THE STATUS OF PLANNED OUTPUTS

Planned output number in the High-level Action Plan for 2010-2011 ^a	Description	Target completion year ^b	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 ^c	Status of output for Year 2 ^c	References ^d
1.1.2.2	Consideration of IACS unified interpretations	Continuous	MSC and MEPC		BLG	Ongoing		BLG 14/17, section 8 MSC 78/26, paragraph 22.12
2.0.1.13	Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention	2012	MEPC	BLG		In progress		BLG 14/17, section 5 MEPC 57/21, paragraph 18.11
5.2.1.3	Development of provisions for gas-fuelled ships	2012	MSC			In progress		BLG 14/17, section 6 MSC 78/26, paragraph 24.11
5.2.1.4	Revision of the IGC Code	2014	MSC		FP, DE, SLF and STW	In progress		BLG 14/17, section 10 MSC 83/28, paragraph 25.7
5.2.1.5	Safety requirements for natural gas hydrate pellet carriers	2011	MSC			Completed		BLG 14/17, section 11 MSC 83/28, paragraph 25.6
5.2.1.25	Revision of the Recommendations for entering enclosed spaces aboard ships	2010	MSC	DSC	BLG, STW and FP	Completed		BLG 14/17, section 13 MSC 85/26, paragraph 23.4

Planned output number in the High-level Action Plan for 2010-2011 ^a	Description	Target completion year ^b	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 ^c	Status of output for Year 2 ^c	References ^d
7.1.2.14	Development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships	2012	MEPC	BLG		In progress		BLG 14/17, section 9 MEPC 56/23, paragraph 19.12
7.3.1.1	Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO _x Technical Code	2012	MEPC	BLG		In progress		BLG 14/17, section 12 MEPC 57/21, paragraph 18.11
7.2.2.4	Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments	Continuous	MEPC	BLG		Ongoing		BLG 14/17, section 3 BLG 10/19, section 3
7.2.2.5	Application of the requirements for the carriage of bio-fuels and bio-fuel blends	2011	MEPC	BLG		In progress		BLG 14/17, section 4 MEPC 55/23, paragraphs 19.4 and 19.5
12.3.1 12.1.2.2	Casualty analysis	Continuous	MSC	FSI		Ongoing		BLG 14/17, section 7 MSC 80/24, paragraph 21.6

Notes:

- a When individual outputs contain multiple deliverables, the format should report on each individual deliverable.
- b The target completion date should be specified as a year, or indicate that the item is continuous. This should not indicate a number of sessions.
- c The entries under the “Status of output” columns are to be classified as follows:
 - “completed” signifies that the outputs in question have been duly finalized;
 - “in progress” signifies that work on the related outputs has been progressed, often with interim outputs (for example, draft amendments or guidelines) which are expected to be approved later in the same biennium;
 - “ongoing” signifies that the outputs relate to work of the respective IMO organs that is a permanent or continuous task; and
 - “postponed” signifies that the respective IMO organ has decided to defer the production of relevant outputs to another time (for example, until the receipt of corresponding submissions).
- d If the output consists of the adoption/approval of an instrument (e.g., resolution, circular, etc.), that instrument should be clearly referenced in this column.

ANNEX 13**JUSTIFICATION FOR AN UNPLANNED OUTPUT ON “FIXED DECK FOAM SYSTEMS FOR SHIPS CARRYING LIQUID SUBSTANCES LISTED IN THE IBC CODE” OF THE BIENNIUM AGENDA****Background**

1 During the review of the FSS Code, the Sub-Committee on Fire Protection identified some amendments to the FSS Code which have reference to chapters 17 and 18 of the IBC Code. These proposed amendments, produced by FP 53, were reported to the Sub-Committee on Bulk Liquids and Gases for specialist comments.

2 Discussions at BLG 14 have identified several concerns with the scope, application and suitability of the proposed amendments. At first sight, these may be interpreted to apply a carriage requirement and this imposition should not be contained within the FSS Code. It is considered that these amendments may produce a potential requirement for amendments to either the IBC Code or SOLAS or both. As such, these amendments should be examined in detail by the BLG Sub-Committee to ensure their efficacy.

3 The report of FP 53 was presented to BLG 14 under the agenda item on “Any other business”, but the necessary discussions which must take place need to be undertaken with a dedicated item to be included in the BLG Sub-Committee’s provisional agenda.

Scope of the proposal

4 It is suggested to establish an unplanned output in the biennium agenda for the BLG Sub-Committee which will examine provisions within the proposed amendments to chapter 14 of the FSS Code as developed by the FP Sub-Committee. This should confirm their acceptability and effect under the IBC Code. It should identify the necessity for, and if so, the detail of, any amendment to the IBC Code.

Compelling need

5 Chapter 14 of the FSS Code, to which the amendments are proposed by FP 53, does not extend to chemical tankers. As such, the proposed inclusion of a standard for fixed deck foam systems may be inappropriate. The proposed amendments will introduce an ambiguity and confusion and a potential contradiction between IMO mandatory instruments. Detailed discussion of these amendments is required to avoid this.

Cost to the maritime industry, legislative and administrative burdens

6 None.

Benefits

- 7 The benefits of further discussion are:
- .1 avoidance of contradictions and confusion within IMO instruments;
 - .2 avoidance of unnecessary potential effect on safety of affected ships;
 - .3 retention of the FSS Code as solely a repository of accepted technical standards;
and
 - .4 achievement of correct identification of appropriate carriage requirements.

Priority and target completion date

8 It is proposed that this work should be given a high priority in order to minimize delay in the amendment to the FSS Code. It is therefore suggested to include an unplanned output in the biennial agenda for the BLG Sub-Committee, with a target completion date of 2011, and in the provisional agenda for BLG 15.

Is the subject within the scope of IMO?

9 Yes.

Relation to the scope of the Strategic Plan and High-level Action Plan

10 The scope is within Strategic Direction 5.2 and High-level Action 5.2.1.

Do adequate industry standards exist?

11 In the light of discussions at FP 54 and BLG 15, the IBC Code current standard may need reconsideration.

Do the benefits justify the proposed action?

12 Yes.
