INTERNATIONAL MARITIME ORGANIZATION

IMO

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12th session
Agenda item 17

BLG 12/17
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REPORT TO THE MARITIME SAFETY COMMITTEE AND THE MARINE ENVIRONMENT PROTECTION COMMITTEE

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1 GENERAL

1.1 The Sub-Committee on Bulk Liquids and Gases held its twelfth session from 4 to 8 February 2008 under the chairmanship of Mr. Z. Alam (Singapore). The Vice-Chairman, Mr. S. Oftedal (Norway), was also present.

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

ANGOLA
ARGENTINA
AUSTRALIA
BAHAMAS
BELGIUM
BOLIVIA
BRAZIL
CANADA
CHILE
CHINA
CUBA
CYPRUS
DENMARK
ECUADOR
EGYPT
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
INDONESIA
IRAN (ISLAMIC REPUBLIC OF)
IRELAND
ITALY
JAPAN
LATVIA
LIBERIA
MALAYSIA
MALTA
MARSHALL ISLANDS
MEXICO
MOROCCO
NETHERLANDS
NEW ZEALAND
NIGERIA
NORWAY
PANAMA
PAPUA NEW GUINEA
PERU
POLAND
PORTUGAL
REPUBLIC OF KOREA
ROMANIA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SLOVENIA
SPAIN
SWEDEN
SYRIAN ARAB REPUBLIC
THAILAND
TURKEY
TUVALU
UKRAINE
UNITED KINGDOM
UNITED STATES
URUGUAY
VANUATU

the following Associate Member of IMO:

HONG KONG, CHINA

and the following State not Member of IMO:

COOK ISLANDS

by an observer from the following intergovernmental organization:

EUROPEAN COMMISSION (EC)

and observers from the following non-governmental organizations:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
INTERNATIONAL RADIO MARITIME COMMITTEE
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
BIMCO
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL ASSOCIATION OF INSTITUTES OF NAVIGATION (IAIN)
COMMUNITY OF EUROPEAN SHIPYARDS' ASSOCIATIONS (CESA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
THE WORLD CONSERVATION UNION (IUCN)
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS LIMITED (SIGTTO)
DANGEROUS GOODS ADVISORY COUNCIL (DGAC)
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
ASSOCIATION OF EUROPEAN MANUFACTURERS OF INTERNAL COMBUSTION ENGINES (EUROMOT)
INTERNATIONAL PETROLEUM INDUSTRY ENVIRONMENTAL CONSERVATION ASSOCIATION (IPIECA)
THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMarEST)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
INTERNATIONAL SAILING FEDERATION (ISAF)
INTERNATIONAL MARITIME HEALTH ASSOCIATION (IMHA)
INTERNATIONAL BUNKER INDUSTRY ASSOCIATION (IBIA)
INTERNATIONAL PAINT AND PRINTING INK COUNCIL (IPPIC)

Opening address

1.3 In welcoming participants on behalf of the Secretary-General, Mr. K. Sekimizu, Director, Maritime Safety Division, observed that holding this session of the Sub-Committee again outside the IMO Headquarters building was one of the final challenges to be faced during the extended refurbishment period which has brought Phase Two of the works back-to-back with Phase One in order to complete the whole project in one go.

The Director drew the Sub-Committee's attention to the theme for this year's World Maritime Day: **IMO: 60 years in the service of shipping** and pointed out that this theme would give the opportunity to pay due tribute to the sterling work delivered by the Organization since its inception in 1948 as a specialized agency of the United Nations; as an institution serving the common public good; and as the regulator and partner of an industry. He emphasized that this year's theme would also provide an appropriate way to celebrate the Organization's return to the refurbished Headquarters building, where history affecting international shipping has been made

since 1982, and that this would also give the opportunity to remember all those indefatigable servants of IMO's objectives and ideals, whose hard work, commitment and dedication have helped create the solid edifice of the Organization's regulatory regime.

Referring to the Sub-Committee as the IMO body responsible for dealing with the risks inherent in the transport of bulk liquids and gases, which affect both the safety of ships and the protection of the marine and atmospheric environments, he stressed that shipping remains a contributor, however relatively small, to increasing levels of emissions of greenhouse gases and air pollutants and, therefore, the review of MARPOL Annex VI and the NOx Technical Code should be singled out, since it represented an excellent opportunity to show the firm determination and true resolve to work out the practicable, pragmatic, workable and affordable solutions.

In appreciating the progress made by the Cross-Government/Industry Scientific Group of Experts established, he clarified that the group's task was to undertake a comprehensive study to evaluate the effects of the different fuel options proposed under the revision of MARPOL Annex VI, the aim of which would be to gather and present facts and data that would facilitate the Committee's decision-making process. Undertaking a parallel process to the ongoing revision of MARPOL Annex VI and the NOx Technical Code, the group should focus on reviewing the impact on the environment, on human health and on the shipping and petroleum industries.

He conveyed that the Secretary-General was pleased to note that the group of experts had fulfilled its mandate in the short time available and had produced documentation outlining the consequences and repercussions that would follow the adoption of the proposed options and expressed his appreciation to members of the group, for their hard work and commitment.

In highlighting another important item relating to MARPOL Annex II and the IBC Code, he pointed out that as new bulk liquid substances continued to be produced for carriage by sea, work should also continue on this topic and the subsequent assignment of pollution categories and carriage requirements under the two aforementioned instruments.

He appreciated the successful preparatory work of the Sub-Committee which enabled MEPC 56 to adopt three new sets of guidelines relating to the 2004 Ballast Water Management Convention, raising the total number to thirteen. He expected the Sub-Committee to continue making progress on, and if possible to finalize, the development of the few remaining guidelines, all of which were in the final stages of completion. On behalf of the Secretary-General, the Director urged, once again, to exert whatever influence the delegations had to have the BWM Convention ratified without further delay.

In further highlighting other important issues on the agenda, he, in particular, touched upon work on the application of requirements for the carriage of bio-fuels and bio-fuel blends, issues relevant to the prevention of marine pollution during oil transfer operations between ships at sea, progress made on the development of draft Interim Guidelines on safety for gas-fuelled engine installation in ships and commencement of work on the revision of the International Code for the construction and equipment of ships carrying liquefied gases in bulk (IGC Code).

On general issues, the Director stressed that there should be no complacency about security at the various venues where IMO meetings may be held during the remaining part of refurbishment period and on behalf of the Secretary-General, the Director, therefore, appealed to all delegates to abide by the general security measures in place.

With regard to the implementation of the Voluntary IMO Member State Audit Scheme, he encouraged Member States to continue the commendable efforts already made, so that the benefits could be expanded to the Organization's entire membership, thereby promoting the global, consistent and effective implementation and enforcement of IMO instruments, and encouraged Member States to volunteer for audit and to nominate qualified auditors.

Chairman's remarks

1.4 The Chairman, in thanking Mr. K. Sekimizu, Director, Maritime Safety Division, stated that the words and advice of the Secretary-General would be given every consideration in the deliberation of the Sub-Committee and its working groups.

Adoption of the agenda

1.5 The Sub-Committee adopted the agenda (BLG 12/1/Rev.2) and agreed, in general, to be guided in its work by the annotations contained in document BLG 12/1/1, also taking into account document BLG 12/1/2 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 12/INF.12.

2 DECISIONS OF OTHER IMO BODIES

General

2.1 The Sub-Committee noted the outcomes of DE 50, FSI 15, SLF 50, MEPC 56 and MSC 83, as reported in documents BLG 12/2, BLG 12/2/1 and BLG 12/2/2 as well as information orally provided by the Secretariat on the outcome of FP 52 relevant to the work of the Sub-Committee and took them into account in its deliberations when dealing with relevant agenda items.

Guidelines on the organization and method of work

2.2 The Sub-Committee noted that MSC 83, when considering the Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies, had agreed that the Guidelines should be strictly adhered to, but having recognized that at the same time flexibility was needed in certain circumstances, agreed that:

.1 intersessional working groups and technical groups should not be held at the same time as Committee or sub-committee meetings; and

.2 splinter groups of a working group, if established, should meet outside normal working hours.

2.3 MSC 83 also agreed to extend the deadline for submission of bulky information documents from 13 weeks to 9 weeks if they are submitted in electronic format and to amend the Committees' Guidelines accordingly.

Status of implementation of codes, recommendations, guidelines and other safety and security-related non-mandatory instruments

2.4 The Sub-Committee noted that MSC 83, when considering the list of codes, recommendations, guidelines and other safety- and security-related non-mandatory instruments relating to the work of the Committee, had referred the detailed consideration of the aforementioned list to the relevant sub-committees for the identification of those instruments which might be relevant in the context of the collection of information on the implementation of such instruments, also requesting them to provide an input on potential users and requirements of the data scheme to be established. In this context, the Sub-Committee noted that a document on the aforementioned matter would be issued by the Secretariat in due course, for consideration at BLG 13.

Strategic plan for the Organization and High-level action plan of the Organization and priorities

2.5 The Sub-Committee also noted that the Assembly, at its twenty-fifth session, had adopted resolution A.989(25) on Strategic Plan for the Organization for the six-year period 2008-2013 and resolution A.990(25) on High-level Action Plan of the Organization and priorities for the 2008-2009 biennium. The actions requested in the operative paragraphs of the two new resolutions entail follow-up aimed at achieving the objectives of the Plans and providing the link between the Organization's strategy and the work of the various IMO organs.

2.6 In this context, the Sub-Committee further noted that the Council, at its twenty-fourth extraordinary session, having considered the recommendations of its *ad hoc* Working Group on the Organization's Strategic Plan, aimed at promoting increased coherence – throughout the Organization – in the tasks of strategic planning, work programme construction, budgeting, performance monitoring and assessment of results and instilling, in IMO's day-to-day work, a culture of systematic and permanent referral to the Strategic and High-level Action Plans, had endorsed them as follows:

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

.2 all IMO organs should ensure that:

.1 their planned activities and, hence, the outputs thereof, are accurately and concisely described in the High-level Action Plan; and

.2 the production of such outputs is systematically and regularly monitored;

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

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

.5 guidelines on the application of and reporting on the Strategic and High-level Action Plans should be developed, with input from all Chairmen, to facilitate the work of all IMO organs; and

.6 all IMO documents, especially proposals for new work programme items should demonstrate, where feasible, the linkages to the Strategic and High-level Action Plans by including, in the summary table at the beginning of each document, references to the related strategic direction(s), high-level action(s) and planned output(s). A revised standard format for the IMO document template is shown in the annex to Circular letter No.2831 and has been implemented as from 1 January 2008.

2.7 The Sub-Committee noted that the Council had also agreed that greater emphasis needed to be given to ongoing efforts in the following areas:

.1 addressing the safety of non-Convention ships;

.2 monitoring and acting on, as may be necessary, the unexpected increase in accidents, particularly in the tanker sector, which arose in late 2006/early 2007;

.3 in this regard, continually strengthening IMO's role with respect to the human element;

.4 improving the PSC non-compliance rate by promoting greater efforts by all parties in the chain of responsibility;

.5 addressing the safety of life and navigation in waters affected by acts of piracy and armed robbery; and

.6 promoting and raising the profile, quality and environmental consciousness of shipping and ensuring that these are permanent tasks of all concerned.

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 observation, 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 Sub-Committee thanked the ESPH Working Group and its Chairman, Mrs. M.C. Tiemens-Idzinga (Netherlands), for the considerable amount of work that had been carried out at its last intersessional meeting (ESPH 13).

Action taken by the Sub-Committee

3.3 In considering the report of the thirteenth intersessional meeting of the ESPH Working Group (BLG 12/3), 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 noted the results of the work on the evaluation of cleaning additives and, in particular, that sixty-one cleaning additives had been evaluated, fifty of which were approved for inclusion in the list of cleaning additives meeting the requirements of the criteria outlined in MEPC.1/Circ.590;

.3 agreed with the entry of Raw C5 in annex 5 of MEPC.2/Circ.13;

.4 concurred with the view of the group that annex 5 of the MEPC.2/Circular was developed for components that would not present safety hazards and that components that do present safety hazards, preferably, should be evaluated as a full IBC Code entry in order not to lose important information but noted that further discussion should be held in the ESPH Working Group;

.5 endorsed the view of the group that paragraphs 5.7 and 5.8 of MEPC.1/Circ.512 should receive further consideration and instructed the ESPH Working Group to address this point and report back accordingly;

.6 concurred with the reiteration that the use of trade names, other than in List 2, 3 or 4 of MEPC.2/Circular is not permitted for bulk marine transport;

.7 agreed with the importance of the two-step approach used in hazard evaluation and the consequential need for the use of individual reporting forms;

.8 agreed that, in principle, the Chairman of GESAMP/EHS should be present if needed at ESPH meetings during the debate on the report and the discussion on the evaluation of new products for inclusion in the IBC Code. It was recognized, however, that further debate may be required in order to ensure that the implications of attendance (or not) are fully appreciated. It was proposed that this could be reviewed by the chairpersons meeting or the MEPC;

.9 agreed that there is a need to stress the urgency of the re-evaluation of the cleaning additives evaluated before 1 January 2007 and concurred with the proposed draft BLG Circular reflecting these issues;

.10 concurred that a single list for annex 10 of the MEPC.2/Circular adds to transparency and agreed with the layout of the list used in MEPC.2/Circ.13;

.11 noted and agreed with the separate list produced, reflecting the different decisions taken on the ratings in the revised GESAMP Hazard Profiles;

.12 agreed that items relating to bio-fuels and bio-fuel blends would be deferred to agenda item 4 for consideration;

.13 agreed with the proposed course of action on the review of chapter 19 of the IBC Code;

.14 approved the draft BLG circular on the use of specific entries in preference to generic entries when both options are available;

.15 agreed with the proposed amendment to note (m) in chapter 17 of the IBC Code changing to "From vegetable oils, animal fats and fish oils specified in the IBC Code";

.16 agreed to bring the renewable subscription fee for List 2 products, as agreed by BLG 11, to the attention of MEPC for endorsement as part of the package for future funding arrangements for the work of GESAMP/EHS and the Secretariat; and

.17 approved the future work programme of the ESPH Working Group notwithstanding the addition of tasks given to the group during the discussion of items relevant to their work.

Proposals for the inclusion of New Products in the IBC Code

3.4 The Sub-Committee noted the proposals by Singapore (BLG 12/3/1) for Ethoxylated tallow amine (>95%) and the United States (BLG 12/3/2) for Dialkyl thiophosphates sodium salts solution to be included in the IBC Code.

3.5 The Sub-Committee tasked the ESPH Working Group to carry out the evaluations since it was recognized that the evaluation of new 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

3.6 The Sub-Committee agreed to consider agenda item 4 before establishing the ESPH Working Group, since this item was of relevance to the work of the group.

3.7 It was further agreed that document BLG 12/16/3 (INTERTANKO), concerning the drainage of shore lines, should also be considered prior to the establishment of the working group. In considering the issue, however, it was clear that there were divergent opinions on the scale of the problems encountered. Moreover, there was a view that if such difficulties are localized rather than widespread, then they should be handled in a localized manner and that a suitable approach in this context could be to utilize the GISIS reporting system on Port Reception Facilities. The Sub-Committee accordingly decided not to instruct the ESPH Working Group to consider this item further at this stage.

Establishment of the working group

3.8 Recognizing the necessity to make progress on all 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 conduct an evaluation of new products;

.2 conduct an evaluation of cleaning additives;

.3 review MEPC.2/Circular – Provisional classification of liquid substance 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;

.5 review chapter 19 of the IBC Code;

.6 prepare the work programme and agenda for ESPH 14; and

.7 submit a report to plenary on Thursday, 7 February 2008.

With respect to item .4, it was noted that there had been a shortage of data on this point previously but that no new documents had been submitted for consideration at this session. Accordingly, there was concern as to how to move forward on the issue and it was proposed that the Sub-Committee should stress to all members that the provision of information is essential in order to progress. As an interim step, it was proposed that the ESPH Working Group should develop a work plan to collate the data required and then to develop knowledge-based proposals accordingly. In this context, it was noted that an extension to the timeline for this work may be required, extending to the next BLG Sub-Committee meeting.

Report of the working group

3.9 Prior to presenting the report of the Working Group, the ESPH Chairman noted that, in paragraphs 5.2 and 5.9, references to "amendments to the 2009 IBC Code" should read "2009 amendments to the IBC Code"; and that, in paragraph 6.4, "renewable diesel" should read "renewable diesel oil".

3.10 Having received and considered the report of the working group (BLG 12/WP.3), the Sub-Committee approved the report in general and took action as indicated hereunder:

.1 agreed with the Group that products submitted for evaluation should go through the BLG reporting form and endorsed that future submissions made without an accompanying BLG reporting form should be rejected;

.2 agreed to the classification and carriage requirements of the one new product submitted;

.3 agreed that industry should be encouraged to check that all data provided in the BLG data reporting form are in line with the GESAMP Hazard Profile and any inconsistencies should immediately be reviewed with GESAMP/EHS;

.4 concurred with the evaluation of cleaning additives;

.5 concurred with the Group that MEPC.2/Circ.14 should contain the elements reflected in paragraphs 5.2 and 5.3 of BLG 12/WP.3;

.6 invited all Administrations to check the correct "contains…." section of List 2 for inclusion in MEPC.2/Circ.14;

.7 agreed to specify in the cover note of MEPC.2/Circ.14 that MEPC.2/Circ.13 would remain valid until and up to 31 December 2008 and that MEPC.2/Circ.14 will become effective on 1 January 2009;

.8 agreed that the temporary precedence arrangements on the MEPC.2/Circular would no longer be applicable and that the normal situation whereby chapters 17 and 18 of the IBC Code take precedence over List 1 of the MEPC Circular will prevail;

.9 agreed on the issuance of a new publication of the IBC Code including the 2009 amendments;

.10 concurred with the view of the Group that the revision of chapter 19 of the IBC Code should continue as part of the work programme with a target completion date of 2009 and urged member delegations to make available the necessary expertise to support this exercise and submit any observations to the contact point in the Netherlands;

.11 approved the future work programme for the intersessional meeting in October 2008, as set out in annex 13; and

.12 agreed to request MSC 84 and MEPC 58 for an intersessional meeting of the ESPH Working Group in 2009.

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

4.1 The Sub-Committee recalled that this agenda item was added to the work programme as a high priority item as a result of discussions at MEPC 55, with a target completion date for this item of 2008.

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

4.3 Accordingly, the ESPH Working Group had considered this matter at their thirteenth intersessional meeting and had proposed a number of actions to the Sub-Committee for consideration.

4.4 The Sub-Committee took action on these points as indicated hereunder:

.1 agreed that the interim guidelines on bio-fuel blends as agreed at BLG 10, may also include bio-fuel blends that consist of vegetable oil in petroleum oil;

.2 agreed that the discussion on the principles of and differences between MARPOL Annexes I and II does not fall within the terms of reference for ESPH;

.3 agreed that, based on data available at this time, the generic name of bio-fuel could be divided into two main groups namely, bio-diesel and bio-alcohol;

.4 agreed that bio-diesel and bio-alcohol should be transported under the correct product name as per chapter 17 or 18 of the IBC Code;

.5 noted the information that four current blending scenarios exist and agreed that blending on board is currently not covered by any IMO Convention;

.6 agreed that more information is necessary to make a well-informed decision and concurred with the key points identified by the ESPH Working Group; but noted that in the banding proposal, the 85% petroleum oil threshold was not fixed and that other options were open for consideration, and

.7 agreed that any interim measure should not go beyond 1 July 2009.

4.5 In the context of point 4.4.6, the delegation of Brazil advised the Sub-Committee that automotive vehicles have been using 25% bio-ethanol mixtures to the benefit of the environment. Although Brazil has not engaged in the transportation of this type of cargo by ship as yet, the delegation believed 25% to be an acceptable cut-off limit and requested therefore that this value should be considered during discussions on this issue.

4.6 Taking account of the above actions and comments, the Sub-Committee tasked the working group to further consider the issue of the carriage of bio-fuels and bio-fuel blends and to develop appropriate proposals for handling these materials accordingly.

4.7 Having received and considered the report of the working group (BLG/12/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 agreed with the work plan for bio-fuel blends and the key points for further consideration;

.2 agreed with the view of the working group to expand the terms of reference to include blending on board and to propose this to MEPC; and

.3 noted the indicated testing initiated by the Netherlands and agreed on the bio-fuel blends that should be utilized.

4.8 With respect to the need to assemble information, ICS noted that an extended timeline for this activity, as proposed by the delegation of the United States in point 6.8 of the report of the working group, may be more reasonable. Other views expressed, however, indicated that the deadline of 1 July 2009 was fixed and that this should be maintained.

4.9 The delegation of the Cook Islands requested that the possible threat that carriage may not be allowed after 1 July 2009 should be clearly referenced in the BLG 12 report. If a halt to transportation occurred, it was suggested that there would be a significant impact on emissions and environmental targets overall as bio-fuels would no longer be readily available for use. In such a scenario, it was proposed that a pragmatic approach involving an extension to the interim arrangements may be needed.

4.10 In terms of point 4.7.2, a clarification of the term blending was requested but it was explained this may be found in earlier documentation, for example in the report of ESPH 13 (BLG 12/3).

4.11 With respect to blending on board ship, the delegate of the Cook Islands stated that it should be recognised that this is already an established practice for cargoes other than bio-fuel blends, particularly where stabilisers may need to be added to otherwise reactive products.

4.12 It was noted that if there are to be extended terms of reference for the work on bio-fuel blends, this may need to be reflected in the work programme of the ESPH Working Group.

4.13 The Sub-Committee requested the MEPC to extend the target completion date of the item to 2009.

5 DEVELOPMENT OF GUIDELINES FOR UNIFORM IMPLEMENTATION OF THE 2004 BWM CONVENTION

5.1 The Sub-Committee recalled that since 31 May 2005 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. Four more States (Barbados, Egypt, Kenya and Sierra Leone) had acceded to the Convention since the last BLG session, which brought the number of Contracting Governments to 12 representing 3.46% of the world merchant fleet tonnage.

5.2 The Sub-Committee noted that MEPC 56 had adopted Guidelines for additional measures regarding ballast water management including emergency situations (G13), Guidelines for risk assessment under regulation A-4 (G7) and Guidelines for ballast water exchange in the Antarctic Treaty area.

Establishment of the working group

5.3 The Sub-Committee recalled that MEPC 56 had agreed to re-establish the Ballast Water Working Group at this session and had approved the terms of reference of the group, as set out in annex 5 of document MEPC 56/23.

5.4 The Sub-Committee further recalled that MEPC 56 having noted the concerns expressed by some delegations with regard to the Guidelines for ballast water sampling (G2), the only remaining set of Guidelines that could not be considered by the Ballast Water Working Group during BLG 11 due to time constraints, had invited Members and observers to submit their contributions to BLG 12 with a view to finalizing them at this session.

5.5 The Sub-Committee noted that five documents commenting on draft Guidelines (G2) had been submitted to this session as follows: BLG 12/5/1 (United Kingdom), BLG 12/5/11 (Brazil), BLG 12/5/12 (Brazil), BLG 12/5/13 (United States) and BLG 12/5/14 (Republic of Korea) and instructed the group to start working immediately by considering these documents in detail, using the revised text provided in document BLG 12/5/1 (United Kingdom) as a basis for further development of these Guidelines.

5.6 Having noted the support of most of the delegations that have spoken for a standardized and uniform application of the sampling Guidelines, the Sub-Committee also instructed the Working Group to include this aspect in its terms of reference for further development of Guidelines (G2).

5.7 In view of the significant workload related to this agenda item, the Sub-Committee also instructed the group to start working on the terms of reference for which the related documents had already been introduced at previous sessions (i.e., sub-items 2, 3 and 11 of the terms of reference contained in annex 5 of document MEPC 56/23) and rejoin the plenary at a later stage.

Methodology for information gathering and the conduct of work of GESAMP-BWWG and related issues

5.8 After calling back the Ballast Water Working Group to rejoin the plenary on Tuesday, 6 February 2008, the Sub-Committee recalled that MEPC 56 had made significant progress in further developing the Methodology for information gathering and the conduct of work of GESAMP-BWWG and had instructed BLG 12 to continue to work on this Methodology and in particular to address the aspects related to Human Exposure Scenario (HSE), safe handling and storage of chemicals used to treat ballast water, safety procedures for the resulting risks to the ships crew from treatment process and criteria to evaluate systems using the same Active Substances or Preparations to determine when it is appropriate to apply the Basic Approval granted to one applicant to another applicant.

5.9 After the introduction of document BLG 12/5/4 (United Kingdom), the Sub-Committee noted the support for further development of the Guidance contained in its annex and the recommendation that all the information regarding the handling and storage of chemicals, the risk assessment and any training that may be required should be provided by the manufacturer of the respective ballast water management system.

5.10 Having considered document BLG 12/5/4 (United Kingdom) providing guidance to ensure safe handling and storage of chemicals used to treat ballast water and the development of safety procedures for risks to the ship's crew resulting from the treatment process, the Sub-Committee agreed to refer this document to the Ballast Water Working Group for detailed consideration and instructed the Group to take into account the comments made in plenary and to use the text contained in the annex as a basis for further development of such Guidance.

5.11 After the introduction of document BLG 12/5/8 (United States), the Sub-Committee noted that the information used in the technical comments regarding the Human Exposure Assessment was based mainly on the experience achieved in one country and recommended that other national regulations should be considered before incorporating the suggested changes in the assessment outlined in the GESAMP-BWWG report.

5.12 After some discussion, the Sub-Committee agreed to refer this document to the Ballast Water Working Group for detailed consideration.

Revision of Guidelines (G8) and Procedure (G9)

5.13 The Sub-Committee recalled that MEPC 56 had agreed that Guidelines (G8) and Procedure (G9) should be revised to further clarify, co-ordinate and improve them, taking into account best practice and lessons learned by the GESAMP-BWWG and the Administrations and had requested BLG 12 to consider a draft of a revised version of Procedure (G9) prepared by the Secretariat and advise MEPC 57 accordingly.

5.14 The Sub-Committee noted that the revision of the two sets of guidelines mentioned above should not become a whole-scale re-opening and subsequent re-negotiation of these two MEPC resolutions. The proposed changes should be based on careful validation of new technical procedures suggested and aimed at improving the practical value of the existing guidelines and at enhancing transparency during their application.

5.15 The Sub-Committee noted that document BLG 12/5 (Secretariat), containing the draft of a revised version of Procedure (G9), had been submitted before the 13 weeks' deadline and needed no introduction and, having considered document BLG 12/5/9 on recommendations for

alignment of the Guidelines (G8) and Procedure (G9), introduced by the United States, agreed to refer these documents to the Ballast Water Working Group for detailed consideration.

5.16 Having considered document BLG 12/5/10 (Norway), the Sub-Committee noted some support for the changes to Guidelines (G8) suggesting Basic Approval for all ballast water management systems. Having further noted the serious concerns expressed by several other delegations regarding the delays and the additional costs involved by the proposals made by Norway, the Sub-Committee agreed to refer document BLG 12/5/10 to the Ballast Water Working Group for detailed consideration taking into account the comments made in plenary.

5.17 The Sub-Committee considered document BLG 12/5/7 on criteria to be used under the Procedure (G9) in 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 and, having noted the uncertainty regarding the mechanisms of applying the Active Substances and their dosage, the responsibility for approval, and the aspects related to legal aspects concerning registration of chemicals and/or biocides, agreed to refer the document to the Ballast Water Working Group for detailed consideration with a view to providing clarification as required by the plenary.

Guidance for ballast water emergency situation

5.18 The Sub-Committee recalled that MEPC 55 had instructed BLG 11 to prepare a "guidance document" on arrangements for responding to emergency situations involving ballast water operations, using document MEPC 55/2/19 (Brazil) as a basis for the development of a circular on this matter. The Sub-Committee further recalled that due to time constraints this task could not be addressed by the Ballast Water Working Group during BLG 11.

5.19 Having considered document BLG 12/5/2 (United Kingdom and Brazil) providing an updated text of such guidance document, the Sub-Committee agreed to refer this document to the Ballast Water Working Group for detailed consideration and possible development of a technical circular on this matter.

Procedure for assessing same level of protection of, and approval for other methods of ballast water management

5.20 The Sub-Committee recalled that MEPC 56 had agreed on the need to develop a Procedure for approving other methods of ballast water management, in accordance with regulation B-3.7 of the BWM Convention, and had instructed BLG 12 to develop such a Procedure inviting interested Members and observers to submit documents on this matter to this session.

5.21 Having considered document BLG 12/5/3 (United Kingdom) which provided text of a draft Procedure for approving other methods of ballast water management, the Sub-Committee agreed to refer this document to the Ballast Water Working Group for detailed consideration taking into account the reservation made by the delegation of Saudi Arabia with regard to the provisions for withdrawal of approval.

Availability of ballast water treatment technology

5.22 The Sub-Committee recalled that MEPC 56 had noted the conclusion of the Ballast Water Review Group that a limited number of technologies would be available to meet the first

implementation date of the BWM Convention. MEPC 56 also noted the remaining concerns regarding the capability of all ships subject to regulation B-3.3 of the Convention to meet the D-2 standard in 2009 due to procedural and logistical problems.

5.23 The Sub-Committee further recalled that, following an initiative of the Secretary-General to address these concerns, the Assembly at its twenty-fifth session had adopted resolution A.1005(25) on the Application of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004. The Assembly resolution calls on States which have not yet done so, to ratify, accept, approve or accede to the Convention as soon as possible. In the meantime, the resolution recommends that ships built in 2009 should not be required to comply with regulation D-2 until their second annual survey, but no later than 31 December 2011 and instructs MEPC to keep this provision under review.

5.24 The Sub-Committee noted that, in document BLG 12/5/5, Japan had raised the concern about the capacity of the manufacturers to supply ballast water management systems for ships built before 2009, which would be required to install such systems according to regulation B-3.1 of the BWM Convention, and had suggested the establishment of an information system for collecting and disseminating information related to the availability of ballast water treatment technologies and the adoption of an MEPC resolution in this respect.

5.25 Having noted the general support for such an information reporting system, the Sub-Committee agreed to refer this document to the Ballast Water Working Group for detailed consideration, taking into account the concerns regarding the need for an MEPC resolution in this respect and the possible delays in the ratification of the BWM Convention expressed by some delegations.

5.26 After considering document BLG 12/5/6 (Japan) commenting on the Assembly resolution A.1005(25), the Sub-Committee noted that Japan's proposal to move the D-2 standard application date for "existing ships" (including ships constructed between 2009 and 2010) to 2015 or 2017 would entail amendments to the Convention. The Sub-Committee also noted that such amendments would only be possible after the entry into force of the Convention and, recognizing the carefully drafted compromise achieved in resolution A.1005(25), agreed that it would be premature to re-open the discussion regarding this resolution at this stage.

Terms of reference for the working group

5.27 Having completed the consideration of all the documents submitted, the Sub-Committee instructed the group, taking into consideration the comments made in plenary, to:

.1 further develop the Guidelines for ballast water sampling (G2) based on the updated version provided in document BLG 11/4/1 (Secretariat), taking into account relevant comments made in documents BLG 11/4/5 (Brazil), BLG 11/4/10 (United Kingdom), BLG 12/5/1 (United Kingdom) and BLG 12/5/11 (Brazil), BLG 12/5/12 (Brazil), BLG 12/5/13 (United States) and BLG 12/5/14 (Republic of Korea) with a view to finalizing the work on these Guidelines;

.2 develop a "guidance document" on arrangements for responding to emergency situations involving ballast water operations, using document BLG 12/5/2 (United Kingdom and Brazil) as a basis for the development of a circular on this matter;

.3 consider document MEPC 55/2/20 (Brazil) and make recommendations regarding the long-term effects, maintenance and reliability of Ballast Water Management Systems as appropriate;

.4 develop a Procedure for assessing "same levels of protection" of, and approval for, other methods of ballast water management under regulation B-3.7 of the BWM Convention, using document BLG 12/5/3 (United Kingdom) as a basis for the development of such a Procedure;

.5 develop a guidance document on how chemicals used to treat ballast water should be handled and stored on board, taking into account relevant existing IMO conventions and codes, using document BLG 12/5/4 (United Kingdom) as a starting point for further development of an MEPC circular or resolution, as appropriate;

.6 develop a guidance document on safety procedures for ships' crews against risks associated with ballast water management systems that make use of Active Substances, taking into account relevant existing IMO conventions and codes, using document BLG 12/5/4 (United Kingdom) as a starting point for further development of an MEPC circular or resolution, as appropriate;

.7 further consider the outline on Human Exposure Scenario (HES), contained in annex 9 of the GESAMP-BWWG report (MEPC 56/2/2), with a view to developing specific provisions that could be incorporated in the GESAMP-BWWG Methodology and Procedure (G9), as appropriate, taking into account comments made in document BLG 12/5/8 (United States);

.8 develop criteria to evaluate systems using the same Active Substances or Preparations, to determine when it is appropriate to apply the Basic Approval granted to one applicant to another applicant, taking into consideration confidentiality and ownership of data, and consider how to develop and incorporate such measures into Procedure (G9) taking into account comments made in document BLG 12/5/7 (United States);

.9 clarify the relationship between Guidelines (G8) and Procedure (G9) to ensure co-ordinated application of these recommendations on the basis of GESAMP-BWWG and Administrations' suggestions contained in the report of the Review Group (MEPC 56/WP.4), taking into account comments made in documents BLG 12/5/9 (United States) and BLG 12/5/10 (Norway);

.10 revise draft of Procedure for approval of ballast water management systems that make use of Active Substances (G9) and the GESAMP-BWWG methodology, based on the draft text provided by the Secretariat in document BLG 12/5, taking into account the additional data requirements recommended by the GESAMP-BWWG in document MEPC 56/2/2, and consider possibilities of formalizing the above-mentioned methodology;

.11 further consider the text changes suggested in paragraphs 7 and 8 of document MEPC 56/2/8 regarding the GESAMP-BWWG methodology;

.12 consider the possible information report system on the ballast water management systems to be installed for existing ships, using document BLG 12/5/5 (Japan) and the need to develop a resolution in this respect;

.13 further consider documents MEPC 56/2/4 (Japan) and MEPC 56/2/12 (Republic of Korea) regarding the issue of interpretation of dates in the BWM Convention, taking into account comments made by IACS during MEPC 56; and

.14 submit a written report on the work carried out, including recommendations to MEPC 57, for consideration by the Sub-Committee on Thursday, 7 February 2008.

Report of the working group

5.28 The Chairman of the Ballast Water Working Group introduced the report (BLG 12/WP.5) and informed the Sub-Committee that the Group finalized the Guidelines for ballast water sampling (G2), which could be forwarded to MEPC 57 for consideration and adoption as an MEPC resolution.

5.29 The Chairman of the Group noted that five of the documents submitted to BLG 12 (BLG 12/5, BLG 12/5/3, BLG 12/5/7, BLG 12/5/9 and BLG 12/5/10) were directly applicable to the issue to be considered in the Ballast Water Review Group which will reconvene at MEPC 57 and, taking into account the importance of these documents for refining the GESAMP-BWWG Methodology and subsequently increasing the availability of new ballast water treatment technologies, recommended that these documents be forwarded to MEPC 57 for consideration by the Ballast Water Review Group.

5.30 The Chairman of the Group informed that, due to the time constraints and the large volume of work assigned, the Group had agreed to continue working on the remaining items of the Terms of Reference until the end of BLG 12 and to request authorization from the BLG Sub-Committee to submit Part 2 of its report directly to BLG 13.

5.31 The Chairman concluded his intervention by informing that, in the time available, the Group was not able to address the remaining terms of reference and agreed to re-establish the Ballast Water Working Group during BLG 13.

5.32 With reference to the provisions contained in paragraph 6 of part 3 of the annex to the Guidelines (G2), the delegation of United States noted that they could not support them as they believed those provisions to be overly prescriptive and outside the scope of the Guidelines. On the same matter, Germany noted that they did not support this provision, which may put a time constraint on the ratification of the Convention until such a circular can be developed and published. Furthermore, Germany expressed its concerns that it might not be appropriate that a circular has necessarily to be developed before the entry into force of the Convention.

5.33 The delegation of the Bahamas noted that paragraph 6 of Part 3 of the annex to Guidelines (G2) calls for the development of a circular and suggested that an action point to reflect this provision should be added to the recommendations of BLG 12 to the MEPC. On the same matter, the delegation of the United States was of the view that, if such an action point is added, there would be no need to keep paragraph 6 of Part 3 of the annex in Guidelines (G2). After some discussion, the Sub-Committee agreed to maintain the existing text and to add an action point to reflect this provision in its recommendations to the MEPC.

5.34 The delegation of ICS, supported by a large number of delegations, expressed its disappointment that despite the strenuous efforts of the Ballast Water Working Group, the needed uniform guidance to provide clarity to shipowners was yet to be achieved. In their view, the indicative testing described in paragraph 6.3 of the Guidelines gives the possibility for a party to take pre-emptive action without the need for full testing and any future sampling and analysis guidance that may be provided in an additional circular would not carry the same authority. Furthermore, the delegations who spoke remained concerned by the lack of uniformity and certainty as a shipowner who purchased and correctly operated type-approved equipment, would be subject to control and prosecution through no fault of their own.

5.35 The delegation of New Zealand, supported by several delegations, were of the view that the Ballast Water Working Group had provided the best advice available at this stage and Guidelines (G2) contained in annex 1 of the report of the Group may, if adopted by MEPC 57, represent a useful first step in further progressing the still controversial and highly technical matter of ballast water sampling for compliance.

5.36 The Chairman of the Ballast Water Working Group emphasized that, bearing in mind the split views on instantaneous and average sampling and the consequences of each of the two above, the Group had offered the best possible compromise and cautioned that, if comments submitted to MEPC 58 did not reconcile the diverging positions, the Committee might refer the text back to BLG 13 resulting in further delays for the adoption of Guidelines (G2).

5.37 Having received clarification from the Secretariat regarding the provisions of the Guidelines on the organization and method of work of the Committees and their subsidiary bodies related to urgent matters emanating from subsidiary body meetings (paragraphs 4.9 and 4.13), and after an indicative show of cards, the Sub-Committee agreed to invite MEPC 58 to adopt the Guidelines for ballast water sampling (G2). The Sub-Committee also agreed to invite the delegations concerned with the lack of certainty in the current version of Guidelines (G2), to submit relevant proposals to MEPC 58 to enhance the certainty and ensure the much needed uniformity.

5.38 Having noted that under agenda item 'Decisions of other IMO bodies' the FSI Sub-Committee would be informed of the decisions taken at BLG 12, the Sub-Committee agreed to invite the MEPC to request the FSI Sub-Committee to take note of Guidelines (G2), after their adoption by an MEPC resolution, when further developing the Guidelines on port State Control under the 2004 BWM Convention.

5.39 Due to the fact that the last deadline for submission of documents to MEPC 57 had elapsed on Friday, 8 February 2008, the Sub-Committee agreed to forward the invitation to approve the Guidance document on arrangements for responding to emergency situations involving ballast water operations to MEPC 58.

5.40 Having noted that documents BLG 12/5, BLG 12/5/3, BLG 12/5/7, BLG 12/5/9, and BLG 12/5/10 were of direct relevance to the review of ballast water treatment technologies scheduled for MEPC 57, the Sub-Committee agreed to invite MEPC 57 to allocate time for their consideration within the framework of the Ballast Water Review Group to be established at that session.

5.41 Regarding the changes to the current agenda item proposed by the Ballast Water Working Group, the delegation of the Bahamas, supported by some other delegations, re-emphasized the

importance of uniform implementation of the BWM Convention and suggested to change the title of this agenda item to "Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention" recommending to avoid continuous agenda items.

Action taken by the Sub-Committee on the report of the Working Group

5.42 Having considered Part 1 of the report of the Working Group (BLG 12/WP.5), the Sub-Committee approved the report in general and took action as indicated below:

.1 invited MEPC 58 to consider the adoption of the Guidelines for ballast water sampling (G2) by an MEPC resolution, as set out in annex 1 of this report;

.2 invited the delegations concerned with the lack of certainty in the current version of Guidelines (G2), to submit relevant proposals to MEPC 58 to enhance the certainty and ensure the much-needed uniformity;

.3 invited MEPC 58 to instruct the BLG Sub-Committee to develop, prior to the entry into force of the BWM Convention, an IMO circular to provide sampling and analysis guidance to be followed and to give advice on the uniform application of that guidance;

.4 invited the MEPC to request the FSI Sub-Committee to take note of Guidelines (G2) after their adoption by an MEPC resolution when further developing the Guidelines on port State control under the 2004 BWM Convention;

.5 invited MEPC 58 to approve the Guidance document on arrangements for responding to emergency situations involving ballast water operations, as set out at annex 2 of this report; and instruct the Secretariat to issue a BWM Circular on this matter;

.6 invited Administrations to provide their own experiences related to Human Exposure Assessment currently developed by GESAMP-BWWG at their earliest opportunity;

.7 forwarded the comments contained in document BLG 12/5/8 for consideration, comment and action by the GESAMP-BWWG and request the Secretariat to explore the possibility of a more direct dialogue on this matter between interested Administrations and the GESAMP-BWWG at the earliest possible opportunity;

.8 invited MEPC 57 to allocate time for a thorough consideration of the documents BLG 12/5, BLG 12/5/3, BLG 12/5/7, BLG 12/5/9, and BLG 12/5/10 within the framework of the Ballast Water Review Group to be established at that session, with the view to facilitating timely approval and, therefore, availability of ballast water treatment technology;

.9 authorized the BWWG to continue its work and submit Part 2 of its report directly to MEPC 58 subject to agreement of the MEPC chairman, in line with paragraph 3.30 of the Committee's Guidelines;

.10 invited MEPC to agree to re-establish the Ballast Water Working Group during BLG 13 with the provisional Terms of Reference as set out at annex 3 to this report; and

.11 requested the MEPC to agree to change the title of this agenda item to "Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention", as a high-priority agenda item with a target completion date of 2010.

6 REVIEW OF MARPOL ANNEX VI AND THE NO_X TECHNICAL CODE

6.1 The Sub-Committee noted that MARPOL Annex VI, regulations for the Prevention of Air Pollution from Ships, as at 31 December 2007, had 47 Parties, representing approximately 74.73% of the gross tonnage of the world's merchant shipping fleet.

6.2 The Sub-Committee recalled that MEPC 53, in July 2005, agreed that there was a compelling need to revise MARPOL Annex VI and the NOx Technical Code. MEPC 53 approved Terms of Reference for the revision and placed it on the work programme of the Sub-Committee with an initial target completion date of 2007. BLG 11 was unable to finalize all aspects of the revision and developed a revised work plan to finalize the revision with one more session including the holding of an intersessional meeting of the working group.

6.3 The Sub-Committee also recalled that MEPC 56, in July 2007, had approved the Sub-Committee's request for an extension of one session, including the holding of an intersessional meeting, which Germany generously offered to host in the latter part of 2007. MEPC 56 approved a provisional agenda and Terms of Reference for the intersessional meeting as well as agreeing that the opening session should be made open to the media.

6.4 The Sub-Committee noted that the intersessional meeting of the Working Group – BLG-WGAP 2, was held in Berlin, Germany from 29 October to 2 November 2007 with more than 120 representatives. The Sub-Committee expressed appreciation to the Government of Germany for its invitation to host the intersessional meeting in Berlin and to the Federal Ministry of Transport, Building and Urban Affairs for providing an excellent meeting venue and for assisting in organizing the meeting and facilitating the work of the group in an expedient and professional manner.

6.5 The delegation of Brazil recognized the importance of the review of MARPOL Annex VI and the NOx Technical Code and the huge challenge for IMO it entails and, having always been in favour of prioritizing discussions on the issue, concurred with the establishment of a time frame for implementing standards. However, such standards should be as realistic as possible, taking into consideration the existence of appropriate technology that will guarantee a consistent, cost-effective and practical implementation for installation and reliable operation of equipment and systems to that effect.

The delegation of Brazil was of the opinion that note should be taken of the fact that adequate technology for abatement of emissions may not be available within the time frame envisaged and hence any target dates to be established should consider some flexibility for in-depth study, research and consistent testing of these technologies.

6.6 The observer from the European Commission emphasized that the initial target completion date for this issue had to be postponed from 2007 to 2008. This meeting of the Sub-Committee was the last opportunity for information gathering and technical consideration.

Seeking more information and technical consideration after this meeting would take the decision-making beyond 2008. In the view of the European Commission, the decisions need to be made in 2008.

Order of discussion

6.7 Following a proposal by the Chairman, the Sub-Committee agreed to consider the agenda item and the submitted documents in the following order:

.1 Outcome of the second Intersessional Meeting of the Working Group on Air Pollution (BLG-WGAP 2);

.2 Structure of the amended Annex VI;

.3 Outcome of the Informal Cross Government/Industry Scientific Group of Experts;

.4 Revision of MARPOL Annex VI – general issues;

.5 Reduction of Sulphur and particulate matter (PM);

.6 NOx regulations for new engines;

.7 NOx regulations for existing engines;

.8 Fuel oil quality; and

.9 Re-establishing the Working Group on Air Pollution.

6.8 The Sub-Committee agreed that the detailed technical documents under the agenda item should not be introduced or discussed in plenary but be forwarded directly to the Working Group on Air Pollution for consideration and that only documents which required decisions to be taken by the Sub-Committee should be introduced and debated in plenary.

6.9 The Sub-Committee also agreed that matters related to revision of the NOx Technical Code and proposed amendments to resolution MEPC.130(53) – Guidelines for on-board exhaust gas cleaning systems, including finalization of the washwater discharge criteria for such systems, should not be considered by the plenary but by the working group only and that the following documents should be introduced in the working group only:

BLG 12/6/4	Secretariat	Proposed amendments to the NOx Technical Code agreed by the Working Group on Air Pollution
BLG 12/6/4/Add.1	Secretariat	Proposed new chapter to the NOx Technical Code Direct Measurement and Monitoring Method
BLG 12/6/7	EUROMOT	Proposal for amendments to the guidelines for on-board exhaust gas-SO_X cleaning systems
BLG 12/6/8	EUROMOT	Proposal for an alternative procedure in the NOx Technical Code for certification of serially produced engines

BLG 12/6/10	Finland	Allowable NOx emission values at each individual mode in test cycles
BLG 12/6/11	Finland	Proposal for amendments to the Guidelines for on-board Exhaust Gas-SOx Cleaning Systems
BLG 12/6/14	Finland	Proposal for the measurement method for particulate matter emitted from marine diesel engines
BLG 12/6/20	United Kingdom	Changes to MARPOL Annex VI necessary to permit the use of economic instruments to reduce emissions from ships
BLG 12/6/21	Germany and Norway	Review of MARPOL Annex VI, regulations 14 and 18 regarding Fuel Quality Specification
BLG 12/6/22	United States	Simplified Certification and relaxed technical file considerations – a proposal to amend the NOx Technical Code
BLG 12/6/23	United States	Compliance and testing issues for Tier III engines
BLG 12/6/27	IACS	Comments on the draft revised MARPOL Annex VI as developed by BLG-WGAP 2
BLG 12/6/28	IACS	Comments on the implementation issues related to the possible introduction of regulations for engines installed on ships constructed before 1 January 2000

Outcome of the intersessional meeting

General

6.10 The Sub-Committee considered document BLG 12/6 (Secretariat) containing the report on the outcome of the second Intersessional Meeting of the BLG Working Group on Air Pollution (BLG-WGAP 2), and noted that good progress had been made on a range of issues.

6.11 In his introduction, the working group Chairman stated that considerable progress was made at the intersessional meeting with extensive discussions concerning all aspects of the review of MARPOL Annex VI and the NOx Technical Code as well as matters related to exhaust gas cleaning systems.

6.12 The Sub-Committee approved the report in general and thanked the Member States and observer organizations for submitting documents and sending their experts to attend the meeting and thereby securing the very productive outcome.

VOC emissions

6.13 The Sub-Committee was invited to note the working group's consideration at the intersessional meeting related to VOC emissions and to consider the draft text developed by the group as set out in regulation 16 in the draft amended MARPOL Annex VI set out in annex 2 to BLG 12/6.

6.14 The Sub-Committee noted the work related to VOC emissions and agreed to forward the issue to the working group for finalization.

Trials for ship emission abatement technology research

6.15 The Sub-Committee noted the working group's consideration at the intersessional meeting related to trials for ship emission abatement technology research and considered the draft text developed by the group as new draft regulation 4 in the draft amended MARPOL Annex VI set out in annex 2 to BLG 12/6/Add.1.

6.16 The Sub-Committee agreed to forward the issue to the working group for further consideration and finalization of draft text.

Market-based instruments to reduce emissions

6.17 As invited in paragraph 13.1.10 of document BLG 12/6, the Sub-Committee noted the working group's consideration at the intersessional meeting related to market-based instruments to reduce emissions.

6.18 Following a brief debate where a number of delegations expressed concerns over the legal aspects of introducing any provisions not addressing individual ships and compliance issues related to market-based schemes, the Sub-Committee agreed to instruct the working group to consider market-based instruments and advise the Sub-Committee on the outcome.

Incinerators and incineration

6.19 The Sub-Committee noted the draft revised text on incinerators and incineration set out in the draft amended MARPOL Annex VI, as set out in annex 2 to BLG 12/6/Add.1.

Record-keeping requirement for Ozone Depleting Substances

6.20 The Sub-Committee, was invited in paragraph 13.1.12 of document BLG 12/6, to note the working group's consideration at the intersessional meeting related the draft proposal for introduction of a record-keeping requirement for on-board handling of Ozone Depleting Substances other than cargoes, and to consider the draft text developed by the working group, as set out in the draft amended MARPOL Annex VI set out in annex 2 to BLG 12/6/Add.1.

6.21 The Sub-Committee noted the draft proposal and agreed to forward the matter to the working group for finalization.

Related guidelines and circulars

6.22 The Sub-Committee noted (BLG 12/6, paragraph 13.1.13) the working group's work at the intersessional meeting on identification of related guidelines and circulars that needed to be

developed or amended in connection with the ongoing revision and that the working group recognized that this issue needed further work at future sessions in connection with the finalization of the revision.

6.23 The Sub-Committee agreed to instruct the working group to identify guidelines, circulars or any other non-mandatory instruments related to MARPOL Annex VI and the NOx Technical Code that needed to be developed or updated as a consequence of the proposed amendments.

The NOx Technical Code

6.24 The Sub-Committee, as invited in paragraph 13.1.14 of document BLG 12/6, noted the working group's considerations at the intersessional meeting and the work related to the revision of the NOx Technical Code (NTC), highlighting that the revision must be finalized by the Sub-Committee at the current session.

Simplified certification scheme for existing engines

6.25 As invited in paragraph 13.1.15 of document BLG 12/6, the Sub-Committee noted that work still remained on developing a draft simplified certification scheme for existing engines as a possible new chapter to the NOx Technical Code.

6.26 The Sub-Committee agreed to instruct the working group to develop a draft simplified certification scheme for existing (pre-2000) engines as a possible new chapter to the NOx Technical Code.

New draft chapter of the NOx Technical Code to cover the direct measurement method

6.27 The Sub-Committee noted the working group's considerations at the intersessional meeting related to development of a new draft chapter 6.4 to cover the direct measurement method to allow parity with the two other methods detailed in section 6 of the NOx Technical Code and also noted that the Secretariat had developed a draft chapter 6.4 and a related appendix for consideration by BLG 12, set out as annex to BLG 12/6/4/Add.1.

6.28 The Sub-Committee agreed to instruct the working group to consider and to further develop the draft new chapter 6.4 on the direct measurement method with the view to include it in the amended NOx Technical Code.

Outstanding work related to the NOx Technical Code

6.29 As invited by paragraph 13.1.17 of document BLG 12/6, the Sub-Committee noted the outstanding work related to the NOx Technical Code identified by the intersessional meeting of the working group and that it had agreed to task the Secretariat with compiling the draft amendments agreed by the group to date and submit it to BLG for further consideration with view to finalize the revision of the NOx Technical Code at that session.

6.30 The Sub-Committee noted the draft amendments compiled by the Secretariat in document BLG 12/6/4 and agreed to instruct the working group to finalize the revised text of the NOx Technical Code for consideration by plenary.

Washwater discharge criteria for EGCS

6.31 The Sub-Committee noted, as invited by paragraph 13.1.18 of document BLG 12/6, the working group's discussions related to washwater discharge criteria at the intersessional meeting as well as residues from exhaust gas cleaning systems. The Sub-Committee also noted the draft washwater discharge criteria for exhaust gas cleaning systems set out as section 10 in the draft amended guidelines for Exhaust Gas Cleaning Systems as set out in annex 6 to BLG 12/6/Add.1.

6.32 The Sub-Committee agreed that the washwater discharge criteria should be finalized at this session and agreed to instruct the working group accordingly.

Guidelines for exhaust gas cleaning systems

6.33 As invited in paragraph 13.1.19 of document BLG 12/6, the Sub-Committee noted the discussions at the intersessional meeting of the working group regarding the draft revision to the guidelines for Exhaust Gas Cleaning Systems.

6.34 The Sub-Committee agreed to instruct the working group to finalize the draft amended guidelines for Exhaust Gas Cleaning Systems using annex 6 of BLG 12/6/Add.1 as the base document.

Recording of the handling of washwater residues

6.35 As invited by paragraph 13.1.20 of document BLG 12/6, the Sub-Committee noted the working group's agreement at the intersessional meeting that the disposal of the washwater residues should be recorded in the Oil Record Book and that the DE Sub-Committee should be invited to address this aspect in their revisions to MARPOL Annex I concerning the Oil Record Book.

6.36 Due to its heavy workload, the Sub-Committee was unable to consider the recording requirement in detail. The Sub-Committee noted that the Marshall Islands, Panama and ICS, in their joint submission BLG 12/6/13 (paragraph 2.3), invited the Sub-Committee to consider under which Annex to MARPOL to include requirements regarding handling and recording of residues from Exhaust Gas Cleaning Systems and that this should not be decided without a thorough understanding of the typical composition of this residue. The Sub-Committee agreed to instruct the working group accordingly.

Structure of the amended Annex VI

6.37 The Sub-Committee considered, with a view to finalization, the proposed draft amendments to MARPOL Annex VI, as set out in annex 2 to BLG 12/6/Add.1, and noted the working group's considerations related to the revision of Annex VI in general, including the structure of the draft text.

6.38 The Sub-Committee considered document BLG 12/6/3 (Sweden) where it was proposed that the new regulation 4 "Trials for ship emission abatement technology research" should be incorporated in regulation 3 or a new regulation 3A in order to keep the current structure and the numbering of MARPOL Annex VI to avoid confusion and unnecessary work for administrations when implementing the amendments.

6.39 The Sub-Committee also considered document BLG 12/6/29 (Germany), which provided comments on regulations 4, 10 and 14 of the draft revised MARPOL Annex VI as set out as annex 2 to BLG 12/6/Add.1, and supported the proposal to keep the current structure and numbering of MARPOL Annex VI.

6.40 Following a brief discussion, the Sub-Committee agreed that it would be desirable to keep the current structure of MARPOL Annex VI and agreed to instruct the working group accordingly.

Outcome of the informal cross government/industry scientific group of experts

6.41 The Sub-Committee welcomed the report of the informal Cross Government/Industry Scientific Group of Experts established following an initiative by the Secretary-General to undertake a comprehensive study to evaluate the effects of the different fuel options proposed under the revision of MARPOL Annex VI and the NOx Technical Code. The Sub-Committee thanked the experts nominated to the Group by Member States and organizations in consultative status served the Group in their personal capacity.

6.42 The Sub-Committee expressed sincere appreciation to all the Member States and international organizations that had contributed financially towards the work of the Scientific Group of Experts as specified in paragraph 4 of document BLG 12/6/1 (and of MEPC 57/4).

6.43 The Sub-Committee noted that the following corrections should be made to document BLG 12/6/1:

.1 Paragraph 61: The table should be replaced with the table below:

2020 Scenarios (Ensys WORLD model). Incremental cost vs. base case 2020

Options	USD/bbl*	USD/ton*	Affected quantity (mill ton)	Increase vs. base case (mill USD/year)
Option C	12.97	87	460	40,042
Option B2 (DMB)	2.54	17	480	8,325
Option B2 (DMA)	2.67	18	479	8,751

*Marine fuels global average cost

.2 The Note below the table should be replaced by the Note below:

"Note: Option C data has been derived from the EnSys work using a correction factor – see paragraph 102. Data for options B and B1 could not be derived the EnSys study for IMO."

.3 Paragraph 91: The title "International Energy Agency" should be replaced with "United States Energy Information Administration".

.4 Paragraph 102: the last sentence should be replaced by:
"The Tables below reflect this corrected data".

6.44 In his introduction the Chairman, Mr. Mike Hunter (United Kingdom), emphasized that the Group was grateful to Member States and organizations in consultative status that donated funds to make the study possible. The work was divided between four subgroups specializing in

shipping, fuel supply, health and environment and computer-based modelling, with expert subgroup leaders volunteering to co-ordinate the work, participation in the subgroups was open to all regardless of the area of their expertise. The Group included a wide variety of expertise; and individuals with expertise in one area could not necessarily validate work in another; the Scientific Group quickly realized that any attempt to quantitatively evaluate the repercussions of the options required some significant assumptions such as future growth in shipping, trends in crude oil prices, applications for SECAs and so on; for this reason, the report of the group should be seen as providing a set of calculations to assist BLG 12 and subsequently MEPC 57 to reach conclusions having taken into account the uncertainties and assumptions involved; the report does not make any recommendations.

6.45 The Sub-Committee noted the following clarifications related to document BLG 12/6/1:

.1 paragraph 86: The assumption that abatement equipment would achieve a 10% market penetration has been applied specifically to the environmental impact analysis of only those options that permit the abatement alternative (paragraph 132 and following);

.2 paragraph 90.5: The model was run using requirements for marine diesel oil quality (DMB) that are more stringent than the current ISO 8217 specifications for this product, but reflecting actual average quality of DMB on the market. The Group later realised that the required refinery investments and projected increase in emissions in case of a global change to distillates were higher than would be expected if marine diesel were produced closer to the ISO 8217 specification requirements. The model results have been manually corrected to reflect this, as described more fully in paragraph 102, though such fuel may not meet the 'clear and bright' specification included in the original option C proposal; and

.3 paragraphs 105 and 106 deal with changes to refinery CO_2 emissions, noting that these must be seen in combination with changes in ship CO_2 emissions as presented earlier in paragraphs 16 and 33, and consequential impacts in paragraphs 149 and 150.

6.46 The Sub-Committee agreed that the report of the informal Cross Government/Industry Scientific Group of Experts contained a considerable volume of information that would enable the Sub-Committee to make progress in its deliberations on what future regulations may be most appropriate for adoption in the amended Annex VI. The Sub-Committee noted that further information could be found in the two information documents providing background material to the final report, BLG 12/INF.10 (MEPC 57/INF.6) and BLG 12/INF.11 (MEPC 57/INF.7).

6.47 The Sub-Committee approved the report in general and expressed appreciation to the Group for the comprehensive work undertaken within the very limited time available and the professionalism the Group had exercised in its undertaking. The Sub-Committee expressed in particular appreciations to the Chairman, Mr. Mike Hunter, and the four sub-group leaders, Ms. Gillian Reynolds (Health and Environment), Mr. Eddy van Bouwel (Fuel Supply), Mr. Niels-Bjørn Mortensen (Shipping) and Mr. Koichi Yoshida (Computer-Based Modelling).

Revision of MARPOL Annex VI – general issues

6.48 The Sub-Committee considered BLG 12/6/6 (Canada) on environmental effects for Canada of the various proposals to reduce emissions. Canada supported early introduction of actions that would significantly reduce emissions of NOx, SOx and PM, including two new tiers of NOx standards to reduce existing standards by 80%.

6.49 The Sub-Committee also considered document BLG 12/6/13 (Marshall Islands, Panama and ICS) reasoning that certain information gaps exist that would impact on the decision-making process for developing new tiers of emission requirements for marine diesel engines and their fuels. The co-sponsors emphasized that knowledge gaps existed on a range of topics such as: NOx reduction for both new and existing engines, handling of waste from Exhaust Gas Cleaning Systems (EGCS), reception facilities for EGCS residues and matters related to fuel oil sulphur testing standards.

6.50 The Sub-Committee considered document BLG 12/6/30 (United States) presenting information related to the impact on fuel consumption of controlling NO_x from existing engines and system designs for the effective use of Selective Catalytic Reduction (SCR) during low load and resulting low exhaust gas temperature operation.

6.51 A number of delegations supported the view expressed by the United States that, given the nature of the technology changes expected to be used to meet a possible NO_x standard for existing (pre-2000) engines, the fuel penalty would be modest for most engines. The emission controls expected to be used on existing engines were primarily in-engine controls and would likely be similar to those that were used on new engines beginning in 2000. Other delegations believed that additional information was necessary to address remaining uncertainties and that it was premature to instruct the working group to develop draft text.

6.52 The Sub-Committee, after an exchange of views, agreed that the working group should be instructed to finalize a draft text for possible NOx regulations for existing (pre-2000) engines.

6.53 The Sub-Committee considered document BLG 12/6/9 (FOEI) summarizing a recent study estimating premature deaths around the world resulting from PM from international shipping and recommending more stringent limitations in the amended MARPOL Annex VI.

6.54 The Sub-Committee considered document BLG 12/6/33 (IPIECA and OCIMF) providing comments on BLG 12/6/9 (FOEI) reasoning that the magnitude of premature deaths estimated by the study summarized in document BLG 12/6/9 was based on uncertain data and thereby might have created an incorrect impression of the impacts on human health by global shipping emissions.

6.55 A number of delegations supported the view expressed by FOEI, that the Study summarized in the document was undertaken and peer-review by recognized scientists and was based on international accepted science, including methodology developed by WHO and the best available knowledge. Other delegations reasoned that the uncertainties identified underlined the need for further studies and reliable data that could be agreed by everybody.

6.56 The Sub-Committee, in the process of discussions, agreed not to consider documents BLG 12/6/31 and BLG 12/6/32 as they did not comply with the submission deadline of documents as specified in the Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies (MSC-MEPC.1/Circ.1).

Reduction of sulphur and PM

6.57 The Sub-Committee considered document BLG 12/6/2 (BIMCO) containing a revised proposal for future SOx emission requirements as compared to their initial proposal submitted to BLG 11 (BLG 11/5/25) referred to as option B2 (annex 4 to BLG 12/6/1). The revised proposal includes a global cap of maximum 3.0% Sulphur in 2012, or the use of alternative mechanisms

such as an EGCS, the introduction of so called "Micro-SECAs" with a maximum Sulphur content of [0.2%][0.1%] in [2011] or the use of alternative mechanisms, such as EGCS, to obtain an equivalent level of emission reduction.

6.58 The Sub-Committee considered the concept of "Micro-SECAs" and noted the proposal that a typical micro-SECA could be located around a port or an estuary in densely populated areas and could, in accordance with the proposal, be declared by the Coast State without a formal process in line with designation of a SECA. A number of delegations expressed concerns that the introduction of "Micro-SECAs", with a sulphur limit different from that in SECAs, could lead to three different fuel requirements for ships trading globally. Some delegations reasoned that a significant reduction was needed in all coastal areas and that an expansion of SECAs was the right approach, not the introduction of small emission control areas within the territorial waters that already may be declared by the coastal State.

6.59 Other delegations expressed support and stated that this approach could be more practical than a fixed distance from shore, as it would secure emission reduction in the areas where such reduction is most needed. The Sub-Committee agreed that the proposed approach should be investigated further, without delaying the revision process, in order to find the best possible solution both for the shipping industry and the marine end global environment as well as protecting human health.

6.60 The Sub-Committee agreed to instruct the working group to further develop the principal options for future sulphur and PM regulations as identified in document BLG 12/6/1, annex 4 and in submissions to this session, and as possible, reduce the number of options to those that best represented the principal conceptual approaches to be presented to MEPC 57.

6.61 The Sub-Committee considered, as invited by the intersessional meeting of the working group (BLG-WGAP 2) in paragraph 17.15 of document BLG 12/6, whether it would be appropriate to adopt explicit PM emission limits in the amended Annex VI or whether it should only recognize that PM emissions would be reduced as a function of reducing sulphur emissions.

6.62 The Sub-Committee considered document BLG 12/6/5 (Finland) in support of the second approach to address PM emissions as described in the report of the intersessional meeting - i.e., that PM emissions should be reduced by reducing sulphur content in marine fuel, not by stipulating specific PM emission limits in the amended Annex VI.

6.63 An overwhelming majority supported the view expressed by Finland that no explicit PM limits should be introduced in the amended MARPOL Annex VI, but that PM emissions would be reduced as a function of reducing sulphur emissions. The Sub-Committee agreed to instruct the working group accordingly.

NOx regulations for new engines

6.64 As invited by the intersessional working group meeting (BLG-WGAP 2), the Sub-Committee considered the different options in the developed draft proposal for Tier II and Tier III NOx regulations for new engines as set out in regulation 14 of the draft amended MARPOL Annex VI set out in annex 2 to BLG 12/6/Add.1.

6.65 The Sub-Committee considered document BLG 12/6/15 (Japan) explaining the Japanese proposal for NOx Tier III standards for new engines and the introduction of regional control

schemes for NOx emissions as well as the justification for such regional schemes. Japan reasoned that stricter limits should apply in coastal waters where the impact on human health and ambient air quality for populated areas are most severe and that lower NOx limits should be applied on the high seas to avoid the possible related fuel penalty in areas where it is not justified.

6.66 A number of delegations expressed the view that the introduction of geographically limited NOx emission control areas under Tier III should be investigated further while other reasoned that only global standards should be pursued. The Sub-Committee agreed to forward the document for further consideration by the working group.

6.67 The Sub-Committee considered document BLG 12/6/16 (FOEI) urging the adoption of stringent new limits on NOx emission and proposing that Tier III should represent a 85% reduction for both new and existing ships by 2015 and Tier II should attain a 40% reduction by 2011. FOEI also held the view that ships not meeting these standards may be denied port entry or be subject to monetary fees by the port State.

6.68 The Sub-Committee considered document BLG 12/6/25 (China) containing a revision of their proposal for Tier II representing a 15.5 to 21.8% reduction. The revised proposal reflected that Tier II standard should be attainable through in-engine design and the application of in-engine measures with potential reductions as agreed at the first intercessional meeting of the BLG Working Group on Air Pollution (BLG-WGAP 1).

6.69 A number of delegations supported the proposal by China for Tier II while others gave support provided that Tier III would introduce a significant reduction in the region of 80%. A number of delegations maintained the view that both tiers had to be seen in connection and that the reduction levels had to be adopted simultaneously and not in isolation from each other.

6.70 The Sub-Committee agreed that adoption of both Tiers II and III standards for new-built engines were well supported and instructed the working group to continue its work to reduce the options and present the different limits where agreement could not be reached in square brackets.

NOx regulations for existing engines

6.71 As invited by the intersessional meeting of the working group, the Sub-Committee considered the different options in the developed draft proposals for possible introduction of retrospective regulation of NOx emission from existing (pre-2000) engines as set out in regulation 14 in the draft amended MARPOL Annex VI set out in annex 2 to BLG 12/6/Add.1.

6.72 The Sub-Committee considered document BLG 12/6/24 (United States) containing a proposal to control NOx emissions from certain existing marine diesel engines that were not subject to the current regulation 13 NOx limits; namely engines with a swept volume displacement of 30 litres or more installed on vessels built prior to 1 January 2000 and which have not undergone a major modification since that date. The approach was based on the availability of emissions upgrade systems that would reduce emissions to the levels contained in the current regulation 13 – NOx limits of MARPOL Annex VI.

6.73 A number of delegations stressed that the uncertainties related to the technical feasibility, the cost effectiveness and the actual net environmental benefit of retrofitting pre-2000 engines identified at earlier sessions still prevailed. Data and outcome of studies had not been submitted to IMO as signalled and the Sub-Committee was therefore not in a position to make any decision related to this important issue which could have severe implications for the shipping industry if not all aspects were thoroughly considered.

6.74 A number of delegations reasoned that significant a NOx reduction was necessary and that pre-2000 engines represented a large part of the total NOx emissions and therefore should be regulated – the question was not if, but how. Some delegations reminded the Sub-Committee that the revision process was already a year behind the initially agreed target completion date of 2007 and that any further delay had to be avoided.

6.75 A number of delegations expressed the view that the "kit-based" approach proposed by the United States could have merit and should be investigated further and that the working group should take it into account when drafting text for possible introduction of NOx reductions for existing (pre-2000) engines.

Fuel oil quality – Determination of sulphur content

6.76 The Sub-Committee considered paragraph 13.1.6 of document BLG 12/6 whereby the Sub-Committee was invited to note the working group's considerations at BLG-WGAP 2, related to fuel oil quality and the uncertainty about compliance with sulphur limits, and considered how this issue should be solved to avoid numerous legal and technical debates concerning enforcement of the sulphur limits both in the current Annex VI and for the future.

6.77 The Sub-Committee considered documents BLG 12/6/12 (FOEI), BLG 12/6/17 (Norway), BLG 12/6/18 (Germany and Norway) and BLG 12/6/26 (Denmark and Finland) related to the determination of actual sulphur levels in fuel oil within the context of test method variability.

6.78 A number of delegations supported the view expressed by Denmark and Finland that test method variability should be considered when determining whether a particular fuel sample was compliant. Under this approach, a fuel oil sample would be deemed compliant with a 1.50% SECA limit as long as it did not exceed 1.58% which takes into account the confidence level of the ISO testing methodology.

6.79 Also a number of delegations supported Germany, Norway and FOIE who articulated an approach that required all test samples to fall below the levels described in MARPOL Annex VI and that these limits should be considered as absolute. Under this approach, a fuel oil sample would be deemed compliant with a 1.50% SECA limit as long as the test results did not exceed 1.50%.

6.80 All delegations that spoke considered it important to reach an agreement at this session on a uniform method of implementing and enforcing the fuel sulphur standards in MARPOL Annex VI and agreed to instruct the working group accordingly.

Fuel oil quality – Fuel oil specification in MARPOL Annex VI

6.81 As invited in paragraph 13.1.7 of document BLG 12/6, the Sub-Committee considered the need for a detailed fuel oil specification in the amended MARPOL Annex VI. The Sub-Committee noted the working group's considerations related to inclusion of fuel oil specifications in the amended Annex VI, and considered whether it would be appropriate to develop fuel quality criteria (other than sulphur content) in the amended Annex VI, and if so, what fuel quality parameters had sufficient relevance to air quality and ship and crew safety to warrant inclusion in the amended Annex VI.

6.82 The Sub-Committee considered document BLG 12/6/12 (FOEI) urging the Sub-Committee to recommend to the MEPC that improved fuel specifications of marine bunker fuel should be included in the amended MARPOL Annex VI.

6.83 The Sub-Committee considered document BLG 12/6/21 (Germany and Norway) where the co-sponsors proposed amendments to regulation 18 of MARPOL Annex VI to include a fuel oil specification for marine distillate fuel and heavy fuel (residual fuel).

6.84 Two different approaches were debated, the proposal by Germany and Norway to include a fuel specification in Annex VI covering parameters relevant for air quality and ship safety or to approach ISO for inclusion of relevant parameters in an existing ISO standard. A lengthy debate followed where the legal aspects of references to ISO standards in mandatory IMO instrument was debated as well as the mandate and competence of the two organizations in question.

6.85 It was noted that one of the options for reduction of sulphur and PM under consideration by the Organization (option C in annex 4 to BLG 12/6/1), the global switch to distillate, would require a fuel oil specification and if the final decision by MEPC would be option C, the matter would need to be revisited.

6.86 A significant majority supported that the Sub-Committee should recommend to MEPC 57 to approach ISO inviting them to develop a draft fuel specification where also parameters related to air quality and ship safety is included for consideration by the appropriate IMO body.

Re-establishment of the working group

6.87 The Sub-Committee re-established the Working Group on Air Pollution with the following terms of reference:

> Taking into consideration submissions by Members and comments made in plenary, the Working Group on Air Pollution was instructed to follow the terms of reference on the revision of MARPOL Annex VI and the NO_x Technical Code as agreed by MEPC 53 and to finalize all technical aspects of the revision and, in particular to:
>
> .1 finalize the draft text of MARPOL Annex VI, including finalization of draft text for "Tier II" and "Tier III" NOx regulations for new engines, and text for possible NOx regulations for existing (pre-2000) engines;
>
> .2 further develop the principal options for future sulphur and PM regulations as identified in BLG 12/6/1 annex 4 and in submissions to this session, and as possible, reduce the number of options to those that best represent the principal conceptual approaches to be presented to MEPC 57;
>
> .3 finalize the revised text of the NOx Technical Code including developing a draft simplified certification scheme for existing (pre-2000) engines as a possible new chapter to the NOx Technical Code as well as inclusion of a new chapter on the direct measurement method;
>
> .4 consider fuel oil quality issues related to the uncertainty about compliance with sulphur limits and how the issue should be solved to avoid continued ambiguity;

.5 identify guidelines or circulars related to MARPOL Annex VI or the NOx Technical Code that need to be developed or revised;

.6 review the proposed amendments to the Guidelines for Exhaust Gas Cleaning Systems (resolution MEPC.130(53)) and finalize the draft amended Guidelines;

.7 review and finalize the draft washwater criteria for Exhaust Gas Cleaning Systems for inclusion in the draft amended Guidelines;

.8 consider the introduction of market-based instruments to reduce emissions from international shipping and advise the Sub-Committee on an appropriate course of action;

.9 consider requirements regarding recording of residues from Exhaust Gas Cleaning Systems and under which Annex to MARPOL it should be regulated; and

.10 report the outcome of the work to plenary in a written report by Thursday, 7 February.

Action taken by the Sub-Committee on the report of the working group

6.88 Having received the report of the working group (BLG 12/WP.6), the Sub-Committee approved the report in general, and in particular:

.1 noted that the working group had completed the tasks assigned to the group in the terms of reference and finalized draft text for the amended MARPOL Annex VI and agreed to forward the draft to MEPC 57 for consideration with a view to adoption at MEPC 58, as set out in annex 4;

.2 noted the draft guidelines for the development of a VOC management plan and agreed to forward them to MEPC 57 with a view to approval, as set out in annex 7;

.3 noted that the working group had agreed on future Tier II and Tier III NOx standards for new engines installed on ships constructed on or after 1 January 2011 and 1 January 2016, respectively;

.4 noted the working group considerations related to possible introduction of NOx standards for existing (pre-2000) engine and the two different draft options developed by the working group, although it was recognized that there also was an option not to include NOx standards for existing engines in the amended MARPOL Annex VI;

.5 noted the three different options for reduction of SOx and PM emissions that the working group had agreed represented an equitable and fair compression of the different concepts and proposal under consideration by the Organization;

.6 noted that the working group finalized text to amend the NOx Technical Code and instructed the Secretariat to compile the agreed amendments and present a clean draft of the agreed proposed amendments to MEPC 57 for consideration with a view to adoption at MEPC 58, as set out at annex 5;

.7 noted that the working group had finalized the revised guidelines for exhaust gas cleaning systems and washwater discharge criteria for such systems and agreed to forward the amendments to the guidelines, as set out in annex 6, to MEPC 57 for consideration, with a view to adoption at a subsequent session;

.8 noted that the working group could not recommend the introduction of market-based instruments in the revised MARPOL Annex VI;

.9 noted that the working group had identified the non-mandatory instruments such as guidelines and circulars, that needed to be developed or updated as a consequence of the amendments to MARPOL Annex VI and the NOx Technical Code; and

.10 noted that the working group had agreed on a procedure on verification of sulphur content in fuel and that this procedure could also be used as guidance in the interim period before the amendments to MARPOL Annex VI entered into force.

7 DEVELOPMENT OF PROVISIONS FOR GAS-FUELLED SHIPS

7.1 The Sub-Committee recalled that MSC 78 had agreed to a proposal from Norway to develop provisions for gas-fuelled ships aimed at establishing an international standard for the installation and operation of international combustion engine installations and that work had progressed at BLG 10, BLG 11 and intersessionally by the correspondence groups.

7.2 The Sub-Committee further recalled that BLG 11, noting that FP 52 is expected to meet prior to BLG 12, agreed to forward those sections of the draft Interim guidelines (BLG 11/6, annex 1) referred to in BLG 11/WP.7, paragraph 7, that were unlikely to be amended by the BLG Sub-Committee, as they fall under the purview of the FP Sub-Committee, to FP 52, so that it may consider them in advance of receiving the draft Interim guidelines to be prepared by BLG 12.

7.3 The Sub-Committee also recalled that BLG 11, noting that the DE and STW Sub-Committees are expected to meet shortly after BLG 12, and would, therefore, only have a short time to consider the outcome of BLG 12, agreed to forward to those sub-committees those sections of the draft Interim guidelines (BLG 11/6, annex 1), referred to in BLG 11/WP.7, paragraph 7, falling under their purview, that could require consideration, so that they may consider them in advance of receiving the draft Interim guidelines from BLG 12.

7.4 The Sub-Committee noted that FP 52, having noted the relevant outcome of DE 50 and BLG 11 and having also considered the document submitted by the United States (FP 52/11/1), containing a detailed review of the fire protection-related aspects of the draft Interim guidelines, prepared by BLG 11 and proposing modifications to the draft text, had established a Correspondence Group on development of provisions for gas-fuelled ships, with the instruction to review the fire protection-related provisions of the draft Interim guidelines on safety for gas-fuelled engine installations in ships, as contained in the annex to document FP 51/11, taking into account document FP 52/11/1 and prepare modifications thereto, as appropriate, for consideration at FP 53.

7.5 Having considered the report of the correspondence group (BLG 12/7/1), which was prepared on the basis of the report of the drafting group established at BLG 11 (BLG 12/7), the Sub-Committee thanked Norway for the progress made on the development of provisions for gas-fuelled ships and, noting the limited time available for an in-depth discussion on the issues

raised in the report in plenary, decided to forward it to the correspondence group for detailed consideration and advice to the Sub-Committee.

7.6 The Community of European Shipyards' Association (CESA), in document BLG 12/7/2, expressed the view that the European shipbuilders anticipate a huge demand for gas-fuelled vessels of various ship types and increasing size using fuel types other than natural gas in the near future and in order to utilize the full potential for the reduction of maritime greenhouse gases (GHS) emissions, recommended a review of the scope and consistency of the draft interim guidelines.

7.7 The Sub-Committee confirmed that in furthering the development of provisions for gas-fuelled ships, it would be appropriate to have a two-step approach, and that the first set of the provisions developed should be applicable to LNG-fuelled ships only. In that context, the Sub-Committee agreed that an appropriate text to reflect the aforementioned approach should be incorporated in the preamble of the draft Interim guidelines on safety for gas-fuelled engine installations in ships.

Establishment of the correspondence group

7.8 The Sub-Committee established the Correspondence Group on Development of provisions for gas-fuelled ships under the co-ordination of Norway*, and instructed it, taking into account the comments and decisions made in plenary, to:

.1 continue an editorial and technical review of the draft Interim guidelines on safety for gas-fuelled engine installations in ships, taking into account documents BLG 12/7/1 and BLG 12/7/2 as well as the outcome of the DE, FP and STW Sub-Committees, and finalize the draft Interim guidelines, based on the annex to document BLG 12/7/1;

.2 prepare a work plan, scope and framework for development of the IGF Code;

.3 collect safety analysis performed for all gas fuels for consideration by the correspondence group, in conjunction with the development of the IGF Code; and

.4 submit a written report to BLG 13.

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Safety analysis

7.9 The Sub-Committee urged Member Governments to submit safety analyses performed on gas fuels to the correspondence group to facilitate its future work on the development of the IGF Code.

8 AMENDMENTS TO MARPOL ANNEX I FOR THE PREVENTION OF MARINE POLLUTION DURING OIL TRANSFER OPERATIONS BETWEEN SHIPS AT SEA

Background

8.1 The Sub-Committee recalled that, at its eleventh session, it had agreed to establish an intersessional correspondence group, under the co-ordination of Denmark, and instructed it to develop draft mandatory regulations for the prevention of marine pollution during oil transfer operations between ships at sea as a new chapter 8 in MARPOL Annex I. MEPC 56 had endorsed that decision and agreed to extend the target completion date of the item to 2008.

8.2 The Sub-Committee recalled also that the record of the consideration of this item by the Sub-Committee at its tenth and eleventh sessions, since its inclusion in its work programme by MEPC 53 in 2005, had been summarized in the report of BLG 11 (BLG 11/16, paragraphs 7.1 to 7.22).

Outcome of the correspondence group

8.3 The Sub-Committee noted that the correspondence group (BLG 12/8) had developed draft amendments to MARPOL Annex I in the form of a new chapter 8 containing draft regulations 40 to 43 although there were several issues still unresolved. It was further noted that, in respect of other legal and policy matters, the group, following its terms of reference, had compiled the opinions and comments from participants for the Sub-Committee to decide among different options.

8.4 The Sub-Committee noted document BLG 12/8/1 (United States) providing comments on the outcome of the correspondence group related to the geographic scope of the proposed amendments and explaining its position contrary to the notification provisions in the Exclusive Economic Zone (EEZ) of a coastal State, set out in draft regulation 42, as they would necessitate an unjustified waiver of traditional and customary rights of high seas freedom of navigation as reflected in UNCLOS. In consequence, the United States proposed that regulation 42 should either be deleted or modified accordingly.

8.5 The Secretariat briefly summarized the legal opinion that was produced by the Organization's Legal Affairs Sub-Division and not read. This opinion was requested by the co-ordinator of the correspondence group in accordance with its terms of reference. The legal opinion was distributed as BLG 12/WP.4, however, no detailed consideration of its contents occurred due to time limitations and the widely held view that the issues before the Sub-Committee were predominantly of a policy, rather than legal, nature.

General discussion

8.6 The Sub-Committee agreed to hold a debate on the report of the correspondence group taking into account comments by the United States and the advice provided by the Legal Affairs

Sub-Division of the Organization. It was agreed that the discussion should be focused mainly on the following issues identified by the group:

.1 scope of application of the draft regulations: whether transfer of 500 tonnes of oil or tanker's tonnage of 150 GT would trigger application;

.2 application to FPSOs and FSUs and bunkering operations;

.3 mandatory/non mandatory compliance with the STS plan;

.4 mandatory/non-mandatory notification provisions and different options concerning geographical scope:

- within the jurisdiction of a Party;
- within the territorial sea only;
- within the territorial sea and the EEZ; and
- within the EEZ only;

.5 proposed additional powers for the coastal State to impose specific measures consistent with best practice ship-to-ship transfer guidelines or in case it is not satisfied with the performance of the operation.

8.7 Following a brief general discussion, the Sub-Committee agreed that the scope of the application of draft chapter 8 should be oil tankers of 150 gross tonnage and above.

8.8 The draft regulations prepared by the correspondence group (BLG 12/8) had proposed the exclusion from the scope of application of chapter 8 bunkering operations (draft regulations 40.1 and 40.3) and transfer operations associated with fixed or floating platforms including drilling rigs, floating production, storage and offloading facilities (FPSOs) used for the offshore production storage, or transfer of oil, and floating storage units (FSUs) used for the storage or transfer of produced oil (draft regulation 40.2).

8.9 A large number of delegations supported the view that bunkering operations and FPSOs and FSUs should be excluded from the scope of chapter 8. With regard to bunkering it was pointed out that there are differences between bunkering and transfers of oil cargo between oil tankers at sea (STS operations). Consequently the text of chapter 8 was not readily applicable to bunkering. Furthermore, it was pointed out that bunkering was expressly excluded from the industry's best practice guidelines, as one of the two vessels involved in a bunkering operation is often not an oil tanker. With regard to FPSOs and FSUs it was pointed that these vessels have been regulated as marine terminal operations which are significantly different to oil tankers, often involving specialized vessels and equipment.

8.10 The delegation of China, supported by a number of delegations, stated that bunkering operations and FPSOs and FSUs should be included under the scope of application of chapter 8 because of their high pollution risks, as recognized by most Member States. China also pointed out that these issues are not purely technical questions but also legal and policy ones, and BLG, as a Sub-Committee, should concentrate on technical aspects and leave these legal and policy considerations to be decided by MEPC. For these reasons, the delegation of China invited the Sub-Committee to submit these issues to MEPC, and in the meantime to refrain from deleting them from the text of the draft chapter 8.

8.11 As the majority of delegations favoured the exclusion of bunkering operations and of FPSOs and FSUs, while a substantial minority were concerned by the pollution risks of these operations, it was decided to exclude these from the present text of draft chapter 8, not to use any square brackets in the text, and to report to MEPC that the Sub-Committee had agreed that the Organization should not lose sight of the risks inherent in bunkering operations and in oil transfers involving FPSOs and FSUs. It would be up to MEPC to agree on the way forward, which might include the possibility to develop relevant guidelines in the future.

8.12 There was wide support and agreement for setting a mandatory requirement for compliance with a Plan describing how to conduct STS operations. The Sub-Committee also agreed to instruct the drafting group it intended to establish to pay attention to the drafting of the regulations which reference non-mandatory instruments.

8.13 Regarding the issue of the mandatory/non-mandatory notification provisions and different geographical scope options contained in the draft text, the Sub-Committee agreed to start the consideration of this complex issue by an indicative vote on whether proposed regulation 42 (on notification to coastal State) and regulation 43 (on additional powers for the coastal States) should be deleted in their entirety or not. Following a show of cards, there were 11 Member States in favour of deletion and 20 in favour of retention of the two regulations.

8.14 The delegation of the United States stated that advance notification of ship to ship transfers in the exclusive economic zone (EEZ), as currently contained in draft regulation 42, was not similar at all to the regulations of general applicability in MARPOL Annex I in that there has never been an advance reporting requirement, nor has Annex I previously given the EEZ any special status. It was the view of the United States that an advance notification requirement beyond the territorial sea did not provide sufficient protection of the marine environment to justify the repeal of a traditional and customary high seas freedom of navigation by amendment to MARPOL. It was clarified that these comments would not apply where one or both ships entered a port of the relevant coastal State. The delegation of China stated that the advance notification requirement was not inconsistent with the principles under UNCLOS and the advance notification requirement had been implemented with regard to LRIT.

8.15 The statement by the United States was supported by the delegations of Cyprus, the Marshall Islands, Panama, Singapore, Saudi Arabia, ICS and OCIMF.

8.16 Having agreed to retain in chapter 8 the provisions for notification, the Sub-Committee conducted an indicative vote on the geographical scope of application of notification with the following results:

- only the EEZ: 12 votes;
- the territorial sea and the EEZ: 17 votes; and
- only the territorial sea: 9 votes.

8.17 The Sub-Committee discussed at length the implications of the indicative vote, including the concerns expressed by some delegations that the indicative vote had not taken into account the numbers of delegations who may have opposed each option, or the possibility that a Member State had voted in favour of more than one of the three above-mentioned options. As, however, the largest number of votes were for the territorial sea and the EEZ as the geographical scope of application of notification, the Sub-Committee agreed to modify regulation 42 accordingly.

8.18 With regard to the criteria used for the informal indicative voting, the delegation of Saudi Arabia stated that since indicative voting did not reflect the actual views of Member States, the report of the Sub-Committee should therefore include the number of Member States who had not voted, as this information could provide an indication of the level of disagreement in considering the proposed amendment to MARPOL Annex I.

8.19 During the debate, it was proposed to keep within square brackets the text referring to "territorial sea and EEZ" in regulation 42, and requested that the Sub-Committee's report should reflect the outcome of the indicative vote, the concerns expressed, and the fact that a number of delegations had been attending working groups and were thus not present at the time the indicative vote was taken.

8.20 Following some further debate, it was agreed that the drafting group would produce a clean text without square brackets for the Sub-Committee to consider. Furthermore, it was pointed out that members would still have the opportunity to submit documents to MEPC on this issue.

8.21 The Sub-Committee next considered a proposal by a delegation to delete regulation 43 because its provisions were not needed in the territorial sea and were not relevant in the EEZ. There was general support for this proposal. An indicative vote produced 20 votes in support of deletion and three in favour of retention. Consequently it was agreed to delete regulation 43.

Establishment of the drafting group

8.22 The Sub-Committee agreed to establish a drafting group to finalize the draft amendments to MARPOL Annex I and instructed it, taking into account comments and decisions made in plenary, to:

.1 finalize the proposed amendments to MARPOL Annex I on the prevention of marine pollution during oil transfer operations between ships at sea using as a basis document BLG 12/8; and

.2 present a written report to plenary on Thursday, 7 February 2008.

Outcome of the drafting group

8.23 Having considered the report of the drafting group (BLG 12/WP.7), the Sub-Committee approved the report in general and, after minor editorial modifications and improvements, agreed to the draft text of new chapter 8 of MARPOL Annex I, as set out in annex 8, for submission to the MEPC for further consideration.

8.24 In discussing the outcome of the drafting group, further debate took place on whether the text referring to "territorial sea and exclusive economic zone" should remain within square brackets as had been previously proposed. Again, it was agreed that the text should remain clear of square brackets and that the report of the Sub-Committee should reflect the discussion and the fact that there had been no consensus on regulation 42. Members may consider submitting documents on this subject to MEPC 58.

8.25 The delegation of the United States reiterated its objections, expressed in its submission BLG 12/8/1, on the proposed application of the advance notification requirements of draft regulation 42 to the EEZ of a coastal State. For that reason, the United States reserved its position on the draft amendments.

8.26 IACS noted that when chapter 8 enters into force there will probably be a large volume of requests to Recognized Organizations for approvals of STS Plans and therefore requested Member States to consider how the requirement for such approved Plans should be implemented, for example whether it would be practicable for the approval of such Plans to be staggered so as to avoid a single date as was the case with SOPEPS. It was recognized that the volume of applications would not be as great as when the requirements for the SOPEP had entered into force, but nevertheless this might be a potential problem.

9 CASUALTY ANALYSIS

Incidents of explosions on chemical and product tankers

9.1 The Sub-Committee recalled that in the context of the Sub-Committee's deliberations on the study on incidents of explosions on chemical and product tankers, BLG 11 had decided that it would be appropriate to await the outcome of the relevant casualty report, the report of the IIWG Human Factors Task Group and that of the FP Sub-Committee.

9.2 The Sub-Committee noted that MSC 83 considered the recommendation of FSI 15 regarding reports of investigation into the **Chassiron**, **Panam Serena** and **Bow Mariner** casualties and agreed to refer the reports of investigation to the FP Sub-Committee for consideration in the context of its work on incidents of explosions on chemical and product tankers.

9.3 The Sub-Committee also noted that the analysis of the report of the investigation into the three ships, as well as the full investigation reports, are available to Members in the GISIS module on Maritime Casualties and Incidents.

9.4 In considering the issues relevant to the item, the Sub-Committee noted that FP 52 had noted the following views express during the discussion:

.1 further investigation into the application of the "property-based approach" and a review of the relevant parts of SOLAS is needed to verify how the above approach could be incorporated for new tankers;

.2 there is still a lack of information on human element issues such as maintenance procedures, tank cleaning, etc., and how such procedures actually work in practice, which emphasizes the importance of industry participation in this work;

.3 cost and benefit studies should be considered as part of this work, including port costs associated with shore-based inerting of tanks; and

.4 casualty data should be collected to determine if the introduction of inert gas systems reduces the fires and explosions on tankers or increases tank entry casualties,

and had decided to establish a working group at FP 53 to progress the matter and invited Member Governments and international organizations to submit the essential data on the subject to FP 53 for consideration and action, as appropriate.

9.5 Having recalled its relevant earlier decisions and noting the outcomes of MSC 83 and FP 52, the Sub-Committee concluded that it would be appropriate to wait the outcome of the FP Sub-Committee before considering the issue any further.

10 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

The Sub-Committee noted that no proposals had been submitted for consideration under this agenda item.

11 DEVELOPMENT OF INTERNATIONAL MEASURES FOR MINIMIZING THE TRANSLOCATION OF INVASIVE AQUATIC SPECIES THROUGH BIO-FOULING OF SHIPS

11.1 The Sub-Committee recalled that MEPC 56 had approved the inclusion of a new high priority item regarding the threat posed by invasive aquatic species transferred by ships' bio-fouling in the BLG Sub-Committee's work programme, with the target completion date of 2010. Subsequently, an item on Development of international measures for minimizing the translocation of invasive aquatic species through bio-fouling of ships was added to the provisional agenda of BLG 12. MEPC 56 also invited Members and observers to submit appropriate documents to BLG 12 for consideration.

11.2 The Sub-Committee had for its consideration document BLG 12/11 (New Zealand and Australia), providing details on key risks and issues associated with the transfer of invasive aquatic species through ships' bio-fouling together with potential management measures to prevent this transfer, and document BLG 12/11/2 (New Zealand and the United Kingdom) on implementation options for managing ships' bio-fouling.

11.3 Having noted the potential implementation options, as identified in document BLG 12/11/2, for managing the risks caused by ships' bio-fouling being (1) develop Guidelines for adoption as an MEPC or Assembly resolution; (2) link measures to the AFS Convention; (3) link measures to the BWM Convention; (4) develop a new convention; and (5) develop a bio-fouling annex to MARPOL Convention, the Sub-Committee considered the proposal by New Zealand and Australia to establish a Correspondence Group to facilitate future work on this newly added agenda item.

11.4 The Sub-Committee also considered document BLG 12/11/1 (ISAF) containing guidance on environmentally friendly operation of recreational and similar small craft and noted that it addresses other environmental aspects that go beyond ships' bio-fouling.

11.5 After some discussions, the Sub-Committee noted the support for the establishment of a Correspondence Group expressed by several delegations. However, having also noted the concerns related to the significant current workload expressed by some other delegations, the Sub-Committee agreed to request the Ballast Water Working Group to assess the need for the Correspondence Group and review the draft Terms of Reference as necessary and advise the Sub-Committee accordingly.

11.6 The Sub-Committee noted that while some delegations indicated that the draft guidelines contained in document BLG 12/11/1 had already been voluntarily applied by some national sailing associations and deemed to be practicable, some other delegations were of the view that these guidelines could only be considered as interim guidance and further review, in particular regarding consistence with the provisions of MARPOL Convention, would be needed before their adoption. After some discussion the Sub-Committee agreed to instruct the Ballast Water Working Group to take into account the relevant information contained in this document when assessing the need for a Correspondence Group on ships' bio-fouling.

11.7 The Sub-Committee noted the information provided in document BLG 12/INF.4 (New Zealand) on a research programme being undertaken to assess the risk posed by ships' bio-fouling to New Zealand's biosecurity and thanked New Zealand for providing it.

11.8 After completing its report on ballast water-related issues, the Ballast Water Working Group reviewed the documents submitted under agenda item 11 and agreed on the compelling need to progress the work on bio-fouling of ships. Consequently, the Group revised the draft Terms of Reference and agreed to recommend the establishment of a Correspondence Group on this matter.

11.9 Having received the advice of the Ballast Water Working Group on ships' bio-fouling matters, the Sub-Committee agreed to establish a Correspondence Group under the co-ordination of New Zealand* with the following terms of reference:

> Taking into account the comments and decisions made in plenary, the correspondence group was instructed to:
>
> .1 review ongoing research on the potential for harmful effects of bio-fouling on ships on the marine environment, human health, property and resources, and the effect existing and proposed regional, national and local requirements may have on the shipping industry, with the aim to facilitate the development of practical proposals for measures that may be needed to address this risk;
>
> .2 further consider existing best practice and potential future measures aimed at minimizing the harmful effects of ships' bio-fouling on the marine environment, human health, property and resources taking into account documents BLG 12/11 (New Zealand and Australia), section 1 of annex to BLG 12/11/1 (ISAF) and MEPC 56/13/1 (FOEI);
>
> .3 further consider the practicality and feasibility of the five options identified in BLG 12/11/2 (New Zealand and United Kingdom) for implementing international measures to minimize the transfer of invasive aquatic species through bio-fouling of ships and recommend to the Sub-Committee potential ways forward for its consideration;
>
> .4 commence development of draft interim practical guidance for minimizing the transfer of invasive aquatic species through bio-fouling of ships using resolution A.868(20) as a model, before the discussions in terms of reference 3 are concluded;

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.5 develop a draft work plan for the further development of potential international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships; and

.6 submit a written report to BLG 13.

12 REVIEW OF THE RECOMMENDATION FOR MATERIAL SAFETY DATA SHEETS FOR MARPOL ANNEX I CARGOES AND MARINE FUELS

General

12.1 The Sub-Committee recalled that BLG 10, having considered issues relevant to the requirements for protection of personnel involved in the transport of Annex 1 cargoes and marine bunker fuels containing toxic substances in all type of tankers, in particular the reporting of Hydrogen Sulphide content and inhalation/dermal information, decided not to amend the Recommendation adopted by resolution MSC.150(77), since it adequately addressed the issues raised and was consistent with the GHS criteria, and agreed to proceed with the MSDS as a mandatory requirement for the transport of MARPOL Annex I cargoes and marine fuel oils. In that context, BLG 10 agreed to the draft new SOLAS regulation VI/5-1 for submission to MSC 82 for approval with a view to a subsequent adoption.

12.2 The Sub-Committee also recalled that MSC 82 approved the draft new SOLAS regulation VI/5-1 (Material safety data sheets) set out in the annex of document BLG 11/14/6 on making the carriage of Material Safety Data Sheets (MSDS) mandatory for the transport of MARPOL Annex I cargoes and marine fuel oils. In that context, MSC 82 considered document MSC 82/9/1 (IBIA), expressing concern regarding some examples of ambiguity or inappropriate requirements for authoring of MSDS and, therefore, requesting a review of the Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuel oils (resolution MSC.150(77)) to ensure a common understanding for an unambiguous implementation. Having considered the issue, MSC 82 agreed to refer document MSC 82/9/1 to BLG 11 for consideration in conjunction with the draft SOLAS regulation VI/5-1 and advise MSC 83, as appropriate, for the Committee to take the advice into account when adopting the aforementioned draft SOLAS regulation.

12.3 The Sub-Committee recalled further that following an extensive discussion on the item, BLG 11 had decided to recommend to MSC 83 to adopt SOLAS regulation VI/5-1. However, the Sub-Committee was of the view that in light of the developments taking place at the UN Sub-Committee of experts on the globally harmonized system of classification and labelling of chemicals, taking into account the provisions of ISO 11014 and other relevant developments and views, it would be appropriate to review the resolution on Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels (resolution MSC.150(77)) and as such, prepared a justification for a new work programme item on the review of the aforementioned resolution for consideration by MSC 83.

12.4 The Sub-Committee noted that MSC 83, endorsing a proposal by BLG 11 to review material safety data sheets (MSDS) for MARPOL Annex I cargoes and marine fuels (resolution MSC.150(77) and noting pertinent comments by IBIA (MSC 83/10/3), decided to include, in the Sub-Committee's work programme and the provisional agenda for BLG 12, a high priority item on "Review of the Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels", with a target completion date of 2008; and, having referred document MSC 83/10/3 to BLG 12 to take the IBIA comments into account, invited Member

Governments to submit their comments and proposals on how the Recommendation can be revised.

Consideration of issues relevant to MSDSs

12.5 The Sub-Committee considered a proposal by INTERTANKO (BLG 12/12) which addressed reasons given for the basis of revision of the standard MSDSs format as set in resolution MSC.150(77) and aimed to demonstrate that the current MSDS format is in line with the MSDS formats required in GHS, ISO 11014, US ANSI and OSHA standards.

12.6 The Sub-Committee also noted the information provided by INTERTANKO in document BLG 12/INF.3 which presented a comparison between the MSDS standard format in resolution MSC.150(77) and MSDS standard formats in GHS, ISO 11014, US ANSI and the OSHA MSDSs as required in 29 CFR 1910.1200, HAZCOM.

12.7 Having considered the proposal by IBIA in document MSC 83/10/3 recommending that the draft SOLAS regulation VI/5-1 should be recommended to require preparation of MSDSs in accordance with current land-based and international standards, in place of IMO recommendations contained in resolution MSC.150(77), the Sub-Committee noted that the proposal by IBIA has been superseded by the fact that MSC 83 has already adopted SOLAS regulation VI/5-1; however, it agreed to take the proposal, where relevant, in further consideration of the issue.

12.8 The Sub-Committee noted information in documents, BLG 12/INF.6 and BLG 12/INF.7 (IBIA), which provided guidance on the preparation of MSDSs under the requirements of the GHS and list all the contents of MSDSs that are currently in use by the industry.

12.9 On the basis of the comments made in plenary, the Sub-Committee reiterated the view that the provisions of resolution MSC.150(77) are consistent with the GHS criteria and that the main purpose of the MSDSs is to inform workers of the possible dangers associated with the handling of chemicals and oils, and as safety data sheets as defined in the GHS might not be able to provide specific information that is relevant for any given work place and in particular on board a ship, the information required as per resolution MSC.150(77) is pertinent and important for the safety of seafarers, in particular. It was also emphasized that the availability of such information assisted the response and rescue services dealing with the emergencies associated with the handling and carriage of chemicals and oils.

12.10 The Sub-Committee, in considering Annex 1 to resolution MSC.150(77), discussed extensively the issue of how to ensure that MSDS accurately identified the product (MARPOL Annex I cargo or bunker) and whether or not the information in the MSDS needed to be determined on the basis of individually testing the product being carried for each specific load or "lifting." In addition, the Sub-Committee also discussed a concern over the MSDS being too generic and, consequently, not providing the information needed by the ship's crew for their safety. Accordingly, the Sub-Committee agreed that MSDS needs to identify the product being carried on the basis of the product name as identified by the bill of lading, the bunker delivery note or other shipping document.

12.11 The Sub-Committee also agreed that the information in the MSDS concerning the properties of the product should accurately reflect the product being carried. For example, considering product XYZ, where the properties are well known and reflected in the MSDS, then that MSDS may be used for each instance that product is carried, provided it continues to

accurately reflect the properties of the product. However, in the event that the properties change, e.g., through blending, such that the MSDS is no longer accurate, even if the name of the product name has not changed, a new and accurate MSDS needs to be provided. The Sub-Committee agreed, in principle, to the amendments to Annex 1 of resolution MSC.150(77) as shown in annex 9.

12.12 The Sub-Committee further expressed the view that the requirement for the completion of MSDS in the case of every shipment of crude oil would have obvious financial repercussions and in addition, given the time constraints and in certain circumstances, it might not be possible to conduct certain required tests as they may require up to 36 hours to complete.

12.13 The Sub-Committee considered Annex 2 of resolution MSC.150(77), however, it was unable to complete the review of this Annex. The Sub-Committee noted that this Annex was very technical and given there was no formal proposal before the Sub-Committee to consider, and since the experts were not available, it would be unable to consider and agree at this time to any changes to this Annex. Some of the issues noted were whether or not it was sufficient to specify only the maximum (or minimum) for some of the properties, whether or not a range should be permitted and if so, how large the range is reasonable. The Sub-Committee recognized that there are issues of practicality involved and agreed that these would be further discussed.

12.14 Based on these considerations, the Sub-Committee could not conclude the review and agree to changes to Annex 2 of the resolution at this session of the Sub-Committee and requested the MSC to extend the target completion date of the item to 2009.

12.15 The Sub-Committee agreed that the information developed in the course of revising resolution MSC.150(77) needs to be communicated to the GHS Sub-Committee in order for it to appropriately include the needs of the maritime industry.

12.16 The Sub-Committee requested interested Member Governments and international organizations to submit detailed proposals to BLG 13 for the review of Annex 2 and to include the appropriate level of expertise in their delegations at BLG 13.

Establishment of a correspondence group

12.17 The Sub-Committee established a Correspondence Group on amendments to resolution MSC.150(77), under the co-ordination of the United States* and instructed it, taking into account the comments made and decisions taken in plenary and the GHS guidelines, to:

.1 review Annex 2 of resolution MSC.150(77) to determine the appropriate information to be provided in the Material Safety Data Sheets;

.2 consider for each parameter in Annex 2, where a maximum, minimum, a range or specific point data is to be provided;

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.3 consider and identify the parameters in Annex 2 where specific test procedures are to be used and/or noted;

.4 consider how different sources of documentation may be used to provide information in Annex 2;

.5 prepare a consolidated text, including revised Annex 1, as agreed at BLG 12, and Annex 2, as revised by the correspondence group; and

.6 submit a report to BLG 13.

Inconsistency between SOLAS VI/1 and new regulation VI/5-1

12.18 The Director of Maritime Safety Division referred to the recently adopted new regulation 5-1 (Material safety data sheets) of SOLAS chapter VI which is expected to enter into force on 1 July 2009 and invited the Sub-Committee to note its inconsistency with SOLAS regulation VI/1 (Application) which indicates that the chapter applies to the carriage of cargoes (except liquids in bulk, gases in bulk and those aspects of carriage covered by other chapters). He considered that, while chapter VI does not apply to carriage of liquid cargoes in bulk, new regulation 5-1 included in chapter VI intends to require MSDS for ships carrying MARPOL Annex I cargoes and marine fuel oils in bulk and, therefore, this anomaly need to be resolved.

12.19 He informed the Sub-Committee that the Secretariat would issue an appropriate note to MSC 84 to raise this issue for its consideration, so that MSC 84 could take the most appropriate action to rectify this problem.

13 REVISION OF THE IGC CODE

13.1 The Sub-Committee noted that MSC 83 considered a proposal by the United Kingdom and SIGTTO (MSC 83/25/15), suggesting to review all current areas of the IGC Code with a view to fully revising and updating the Code and, where necessary, to identify other instruments which may be effected and require consequential amendments, taking into account the latest technologies, operational practices and the increasing size of the newest ships, and had agreed to include, in the BLG Sub-Committee's work programme and the provisional agenda for BLG 12, a high priority item on "Revision of the IGC Code", with the target completion date of 2010, in co-operation with the FP, DE, SLF and STW Sub-Committees, as necessary and when requested by the BLG Sub-Committee.

13.2 The Sub-Committee had for its consideration under the agenda item submissions by:

.1 SIGTTO (BLG 12/13), proposing the scope and method of approach to the review of the IGC Code which would be undertaken by a series of technical working groups utilizing the expertise of SIGTTO members, industry associates and IMO Member States; and

.2 Germany and the Netherlands (BLG 12/13/1), mindful of the strategic decision of MSC 81 to go forward on developing future safety standards in a goal-based safety structured manner and that the IMO Strategic Plan and High-level Action Plan take this decision into account, proposed that the revised IGC Code should no longer be a prescriptive standard, instead the revision should be on the basis of a goal-based standard concept.

13.3 The observer from SIGTTO advised the Sub-Committee that the first meeting of the Steering Group on the review of the IGC Code took place last month under the chairmanship of the United Kingdom, that SIGTTO is committed to the review of the IGC Code and that it would keep the Sub-Committee informed of the progress made.

13.4 The Sub-Committee emphasized the on-going development of goal-based standards at 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.

14 WORK PROGRAMME AND AGENDA FOR BLG 13

Work programme of the Sub-Committee and provisional agenda for BLG 13

14.1 Taking into account the progress made during the session and the provisions of the agenda management procedure, the Sub-Committee reviewed its work programme and the draft agenda for the next session (BLG 12/WP.2) and prepared a draft revised work programme and draft provisional agenda for BLG 13. While doing so, the Sub-Committee agreed to invite the MSC and the MEPC, as appropriate, to approve the draft revised work programme and the draft provisional agenda for BLG 13, as set out in annex 10.

Status of planned outputs of the high-level action plan

14.2 Having recalled the relevant decisions of the Council referred to in paragraph 2.7.6, the Sub-Committee noted the information on the status of planned outputs listed in the High-level Action Plan, as set out in annex 4 to document BLG 12/WP.2.

Arrangements for the next session

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

- Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments;

- Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention;

- Development of provisions for gas-fuelled ships;

- Safety requirements for natural gas hydrate pellet carriers;

- Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NOx Technical Code; and

- Amendments to resolution MSC.150(77) on recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuel oils,

and agreed that information on the arrangements for BLG 13, concerning the allocation of working and drafting groups, would be issued by the Chairman after MEPC 57 and MSC 84.

14.4 The Sub-Committee established correspondence groups on the following subjects due to report to BLG 13:

- Development of provisions for gas-fuelled ships;

- Amendments to resolution MSC.150(77) on recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuel oils; and

- Development of international measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships.

Intersessional meetings

14.5 The Sub-Committee, having recalled its respective decision under agenda item 3 (see paragraph 3.10.12), invited MSC 84 and MEPC 57 to approve the holding of the intersessional meeting of the ESPH Working Group in 2009.

Date of the next session

14.6 The Sub-Committee noted that its thirteenth session had been tentatively scheduled to take place from 2 to 6 March 2009 at IMO Headquarters.

15 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2009

15.1 The Sub-Committee, in accordance with the Rules of Procedure of the Maritime Safety Committee and the Marine Environment Protection Committee, unanimously re-elected Mr. Z. Alam (Singapore) as Chairman and Mr. S. Oftedal (Norway) as Vice-Chairman, both for 2009.

16 ANY OTHER BUSINESS

Provision for information relative to adherence to regulations 12 and 18 of MARPOL Annex II

Drainage of shore lines

16.1 The Sub-Committee noted that this item had been considered under agenda item 3 (see paragraph 3.7).

Use and carriage of heavy grade oil (HGO) on ships in the Antarctic area

General

16.2 The Sub-Committee recalled that a proposed ban on the use and carriage of HGO on ships in the Antarctic area (BLG 11/14/3 by Norway) had been considered at BLG 11 where several issues associated with the proposal could not be resolved in the short time then available for discussion given that, despite majority support shown, there remained serious concerns for several delegations and industry observers. BLG 11 agreed to inform the MEPC accordingly, seeking its guidance as to how to pursue this matter further (BLG 11/16, paragraphs 14.24 and 14.25).

16.3 The Sub-Committee recalled also that MEPC 56 had agreed to return the issue to the Sub-Committee tasking it with examining all available options and make recommendations to MEPC 57, highlighting that each option should be thoroughly examined and that protection location of tanks above double bottom be given careful consideration (MEPC 56/23, paragraphs 10.27 to 10.31).

16.4 The Sub-Committee had before it two documents addressing this matter: BLG 12/16 (Norway) and BLG 12/16/1 (New Zealand).

16.5 The Sub-Committee noted that, in document BLG 12/16, Norway reiterated its proposal to prohibit the use and carriage of HGO in the Antarctic area; recalled decisions taken at BLG 11 on some specific points; provided views in respect of comments and objections made at BLG 11 concerning the proposed ban; and examined other options available as mandated by the MEPC, as follows:

.1 the proposed amendments should not apply to warships and other State ships (BLG 11/16, paragraph 14.20);

.2 no modification of the definition of HGO, for the purposes of regulation 21 of MARPOL Annex I, should be made as a consequence of eventually adopting the proposed amendments (BLG 11/16, paragraph 14.23);

.3 a single sinking in the Antarctic area with HGO on board would be a catastrophe for the delicate Antarctic environment, therefore double hull protection for oil fuel tanks could not be an option;

.4 in the light of the recent loss of the cruise ship **Explorer** in Antarctica, the current situation where commercial shipping is growing very strongly year on year in the area should be addressed;

.5 lubrication oil should be exempted from the provisions of the proposed amendments;

.6 cleaning of HGO tanks and piping prior to enter the Antarctic area should not be an issue because the amounts of HGO clinging to walls of tanks and pipes would not be sufficient to cause a major spill; and

.7 the possible extension of the proposed amendments to Arctic waters should be carefully considered at some time in future, however it did not form part of the current proposal.

16.6 The Sub-Committee noted also that the annex to document BLG 12/16 provided the text of the proposed amendments to regulation 15 of MARPOL Annex I as originally submitted to BLG 11.

16.7 The Sub-Committee noted that, in document BLG 12/16/1, New Zealand expressed its support for measures restricting the use of HGO in the Antarctic area and provided ample information, including statistics, on: the increasing number of civilian (not survey or State-owned) vessels many of them tourist vessels that enter the area; the use of HGO by those ships; incidents occurred to date; and known consequences of HGO and other lighter oils spills in the Antarctic Sea.

16.8 The Sub-Committee noted further that New Zealand proposed that, if it was determined that a restriction on the carriage and use of HGO in the Antarctic area was warranted, the following points ought to be addressed:

.1 agreement on a definition of HGO was needed and lubricating oils should not be banned;

.2 SAR and oil pollution response ships, as well as other vessels which might attend emergencies burning HGO should be allowed in the area;

.3 certain implementation issues should be addressed; and

.4 co-ordination with the closely related work currently being carried out in the DE Sub-Committee on proposed amendments to the Guidelines for ships operating in Arctic and Antarctic ice-covered waters should be sought.

Discussion

16.9 During the debate, it became clear that there was overwhelming support, in principle, for a ban on the use and carriage of HGO in the Antarctic area, at the same time acknowledging that there were significant issues needing resolution before such a ban could reasonably be implemented.

16.10 Some of these issues had been highlighted in the submissions, in particular in paragraphs 5 and 10 of document BLG 12/6 and paragraph 15 of document BLG 12/6/1. Of note among these was the definition of HGO, the alternatives to such a ban and the ongoing work in the DE Sub-Committee which may be relevant to these discussions. Almost all Member States and observer delegations who spoke raised their concerns that detailed discussion was necessary before a final recommendation could be made to the MEPC. One Member State suggested that, if such a ban were to be included in MARPOL Annex I, its placement within MARPOL would also have to be considered as the current proposal, in a section concerning the control of operational discharge of oil, was inappropriate.

16.11 The Sub-Committee, therefore, agreed to advise the MEPC that, while there was overwhelming support, in principle, for a ban on the use and carriage of HGO on ships in the Antarctic area, further detailed discussion was necessary before implementation. This was considered best undertaken by the Sub-Committee with the co-operation, as necessary, of the DE Sub-Committee. However, if this were to be agreed then it would, of necessity, require the consideration of a new work programme item.

16.12 In consequence, the Sub-Committee agreed to invite the MEPC to include a new high priority item on its work programme and agenda for BLG 13 on Amendments to MARPOL Annex I on the use and carriage of HGO in the Antarctic area. The justification for the proposed work programme item, called for in the Committees' Guidelines (MSC-MEPC.1/Circ.1), is set out in annex 11.

Requirements for the carriage of gas-to-liquid oils

16.13 The Sub-Committee considered document BLG 12/16/2 (OCIMF) seeking the Sub-Committee's confirmation, and dissemination by means of a BLG circular, that transport of Gas-to-Liquid (GTL) oils continue to be transported under MARPOL Annex I provisions in view

of their similar composition and comparable properties with petroleum oil equivalent products such as naphtha, kerosene, diesel and luboils.

16.14 Following discussion, the Sub-Committee agreed to the proposal. However, concern was expressed by several delegations that BLG circulars were sometimes disregarded by port State control authorities and that endorsement by the MEPC would be preferable. Although this solution merited the approval of those who spoke, the Sub-Committee, recognizing that in accordance with the Committees' Guidelines (MSC-MEPC.1/Circ.1), the next meeting of the MEPC which could consider the issue of a circular was MEPC 58 in October 2008, agreed to:

.1 issue BLG.1/Circ.23 on requirements for the carriage of Gas-to-Liquid oils; and

.2 invite MEPC 58 to endorse this course of action taken by the Sub-Committee and to disseminate the text of the above circular by means of an MEPC circular, the draft text of which is set out in annex 12.

Natural gas hydrate pellet carriers

16.15 The Sub-Committee noted that MSC 83, having considered document MSC 83/25/10 (Japan), proposing to develop draft guidelines for the construction and equipment of ships carrying natural gas hydrate pellets (NGHP) in bulk, 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.

16.16 The Sub-Committee noted the information provided by Japan (BLG 12/INF.5) on natural gas hydrate pellet carriers and consideration of safety requirements for the carriage to facilitate discussion on the issue in the forthcoming sessions of the Sub-Committee.

Limiting cargo loss from tank vessels involved in collision or grounding incidents

16.17 The Sub-Committee noted document BLG 12/INF.9 (Dominica) setting out the general characteristics of a concept oil tanker complying with the requirements of regulation 19 of MARPOL Annex I on double-hull and double-bottom requirements for oil tankers delivered on or after 6 July 1996.

Device to prevent passage of flame into cargo tanks

16.18 The Sub-Committee recalled that BLG 11, having considered the proposal by Denmark (BLG 11/14) whereby the Danish Maritime Authority observed in particular that that some of the listed products had a Maximum Experimental Safe Gap (MESG) of less than 0.9 mm and that the ship devices to prevent entry of flame into the cargo tanks were only tested and certified for products with an MESG of not than 0.9 mm, and noting the outcome of FP 51 which had considered that the Revised standards (MSC/Circ.677) adequately addressed this matter, had agreed that IACS may continue to apply its interpretation till such time the Sub-Committee was instructed to revisit the issue.

16.19 In the above context, and for the sake of clarity, the Sub-Committee also recalled that at BLG 11, the observer from IACS highlighted that the literal meaning of paragraph 1.2.3 of MSC/Circ.677 by IACS was different from how FP 51 had interpreted its application such that regardless of whether the chemical carrier is dedicated, or not, to the carriage of substances with

an MESG less than 0.9, the MESG of the device must correspond to the lowest MESG of the substances loaded.

16.20 In the ensuing discussion, the Sub-Committee noted that MSC 83, having considered the proposals by:

.1 Denmark (MSC 83/10/1), which highlighted that to maintain compliance with existing equipment certification and consistency with other standards in order to prevent passage of flame into cargo tanks, the observations referred to in the document submitted by Denmark to FP 51 (FP 51/18) should be noted. Furthermore, the procedure concluded at BLG 11 is not in accordance with the provisions of the IBC Code and MSC/Circ.677 as amended, and there would be serious complications with regard to other mentioned standards; and

.2 CESA (MSC 83/10/2), which emphasized that the conclusions of BLG 11 and FP 51 do not coincide, as far as the testing of devices to prevent the passage of flame into cargo tanks certified for cargoes with a MESG of less than 0.9 mm was concerned,

and after extensive discussion on the best way forward on this matter, and noting that the proposal by Denmark (MSC 83/10/1) had support from many delegations, had agreed that a clarification on the issue was needed and had referred documents MSC 83/10/1 (Denmark) and MSC 83/10/2 (CESA) to BLG 12 for further consideration, with a view to amending circular MSC/Circ.677 accordingly, taking into account the conclusions of FP 51 on this issue, for approval by the Committee.

16.21 In the course of discussion of the matter, the delegation of Denmark reiterated and emphasized that their Administration had observed that some chemical tankers fitted with devices to prevent passage of flames into cargo tanks that are not tested and certified for the cargoes on approved cargo list, and proposed that in order to avoid further confusion, the words “dedicated”, in paragraph 1.2.3 of MSC/Circ.677, should be replaced with “certified for”.

16.22 While the aforementioned proposal was supported by a number of delegations which took part in the debate, IACS, supported by others, were of the view that though the existing text was ambiguous and could benefit from improvement, the repercussions of the change proposed by the delegation of Denmark, including the possible need for retrofitting valves in existing chemical tankers, need to be carefully looked into. As a result, the Sub-Committee invited Member Governments and international organizations to consider the issue and submit written proposals for consideration at BLG 13. The Sub-Committee noted that IACS undertook to submit such a proposal.

16.23 The delegation of Denmark expressed its concern regarding the delay in the final decision of the Sub-Committee. Denmark had presented a proposal to change the resolution to clarify the wording in line with the outcome at FP 51 which MSC 83 had instructed BLG 12 to take into account.

Expressions of appreciation

16.24 The Sub-Committee expressed appreciation to the following delegates and members of 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:

- Capt. Eduardo Polemann (Argentina) – on return home;

- Admiral Miguel Davena (Permanent Representative of Brazil to IMO) – on return home;

- Capt. Luis Burgos (Chile) – on retirement;

- Ms. Marja Tiemens-Idzinga (The Netherlands) – on impending retirement;

- Admiral Oscar Penny (Peru) – on retirement;

- Mr. Yeang-Jun Jang (Republic of Korea) – on return home;

- Mr. John De Rose (IACS) – on impending retirement; and

- Ms. Jennie Hallett and Ms. Margaret Bond (both from MED) – on retirement.

17 REPORT TO THE COMMITTEES

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

.1 note the progress made on the development of provisions for gas-fuelled ships and that the Sub-Committee confirmed that, in furthering the development of these provisions, it would be appropriate to have a two-step approach and the first set of the provisions developed to be applicable to LNG-fuelled ships only (paragraphs 7.5, 7.7 and 7.8);

.2 note the outcome of the consideration of issues relevant to MSDSs in the context of the Review of the recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels and the progress made in the context of amendments to Annex 1 of resolution MSC.150(77) (paragraphs 12.5 to 12.17);

.3 consider the inconsistencies between SOLAS VI/1 and new regulation VI/5-1 and take action as appropriate (paragraphs 12.18 and 12.19);

.4 approve, subject to the concurrent decision of MEPC 57, the proposed revised work programme of the Sub-Committee and provisional agenda for BLG 13 (paragraph 14.1 and annex 10);

.5 approve, subject to the concurrent decision of MEPC 57, the holding of an intersessional meeting of the ESPH Working Group in 2009 (paragraph 14.5); and

.6 approve the report in general.

17.2 The Marine Environment Protection Committee, at its fifty-seventh session, is invited to:

.1 note that the Sub-Committee has completed the technical aspects of the review of MARPOL Annex VI and the NOx Technical Code and has finalized draft text for the two instruments and agreed to forward the drafts to the Committee for consideration with a view to adoption at MEPC 58 (paragraph 6.88.1, and annexes 4 and 5);

.2 note that the Sub-Committee agreed that the current structure of MARPOL Annex VI should be maintained (paragraphs 6.37 to 6.40);

.3 note that the Sub-Committee agreed on future Tier II and Tier III NOx standards for new engines installed on ships constructed on or after 1 January 2011 and 1 January 2016, respectively (paragraph 6.88.3);

.4 note the Sub-Committee's considerations related to possible introduction of NOx standards for existing (pre-2000) engines and the two different draft options for possible approaches, although it was recognized by the Sub-Committee that there also was an option not to include NOx standards for existing engines in the amended MARPOL Annex VI (paragraph 6.88.4);

.5 note that the Sub-Committee agreed that no explicit PM limits should be introduced in the amended MARPOL Annex VI, but that PM emissions would be reduced as a function of reducing sulphur emissions (paragraphs 6.61 to 6.63);

.6 note that the Sub-Committee agreed that the three different options identified for reduction of SOx and PM emissions represented an equitable and fair compression of the different concepts and proposals under consideration by the Organization (paragraph 6.88.5);

.7 approach ISO inviting them to develop a draft fuel oil specification where also parameters related to air quality and ship safety is included (paragraphs 6.81 to 6.86);

.8 note that the Sub-Committee finalized text to amend the NOx Technical Code and that the Secretariat was instructed to compile the agreed amendments and present a clean draft of the agreed proposed amendments to MEPC 57 for consideration with a view to adoption at MEPC 58 (paragraph 6.88.6 and annex 5);

.9 note that the Sub-Committee finalized proposed draft amendments to the revised guidelines for exhaust gas cleaning systems as well as washwater discharge criteria for such systems and agreed to forward the proposed draft amendments to MEPC 57 for consideration, with a view to adoption at a subsequent session (paragraph 6.88.7 and annex 6);

.10 note that the Sub-Committee could not recommend introducing market-based instrument in the revised MARPOL Annex VI (paragraph 6.88.8);

.11 note that the Sub-Committee identified the non-mandatory instruments, such as guidelines and circulars, that needed to be developed or updated as a consequence of the amendments to MARPOL Annex VI and the NOx Technical Code (paragraph 6.88.9);

.12 note that the Sub-Committee agreed on a draft procedure to verify sulphur content in fuel and that this procedure could also be used as guidance in the interim period before the amendments enter into force (paragraph 6.88.10);

.13 consider with a view to adoption the draft guidelines for the development of a VOC management plan (paragraph 6.88.2 and annex 7); and

.14 to allocate time for a thorough consideration of documents BLG 12/5, BLG 12/5/3, BLG 12/5/7, BLG 12/5/9, and BLG 12/5/10 within the framework of the Ballast Water Review Group to be established at MEPC 57, with the view to facilitating timely approval and, therefore, availability of ballast water treatment technology (paragraphs 5.40 and 5.42.8).

17.3 The Marine Environment Protection Committee, at its fifty-eighth session, is invited to:

.1 note the Sub-Committee's agreement that, in principle, the Chairman of the GESAMP/EHS working group should be present, if needed, at ESPH working group meetings during the debate on the report and the discussion on the evaluation of new products for inclusion in the IBC Code. Recognizing, however, that further debate may be required in order to ensure that the implications of attendance (or not) are fully appreciated, it was proposed that this could be reviewed by the chairpersons meeting or the MEPC, and decide as appropriate (paragraph 3.3.8);

.2 note the Sub-Committee's agreement to specify in the cover note of MEPC.2/Circ.14 that MEPC.2/Circ.13 would remain valid until and up to 31 December 2008 and that MEPC.2/Circ.14 will become effective on 1 January 2009 (paragraph 3.10.7);

.3 note that the temporary precedence arrangements on the MEPC.2/Circular would no longer be applicable and that the normal situation whereby chapters 17 and 18 of the IBC Code take precedence over List 1 of the MEPC Circular will prevail (paragraph 3.10.8);

.4 note the Sub-Committee's agreement to issue a new publication of the IBC Code including the 2009 amendments (paragraph 3.10.9);

.5 note that the revision of chapter 19 of the IBC Code should continue as part of the work programme with a target completion date of 2009 (paragraph 3.10.10);

.6 endorse the future work programme for an intersessional meeting of the ESPH Working Group in October 2008 (paragraph 3.10.11 and annex 13);

.7 approve, subject to MSC 84's concurrent decision, the holding of an intersessional meeting of the ESPH Working Group in 2009 (paragraph 3.10.12);

.8 note the Sub-Committee's progress in its consideration of application of requirements for bio-fuels and bio-fuel blends (paragraphs 4.1 to 4.12);

.9 consider the proposal to expand the terms of reference of the ESPH Working Group to include blending on board, and decide as appropriate (paragraph 4.7.2 and annex 13);

.10 consider, with a view to adoption by an MEPC resolution, the draft Guidelines for ballast water sampling (G2) (paragraph 5.42.1 and annex 1);

.11 instruct the Sub-Committee to develop, prior to the entry into force of the BWM Convention, an IMO circular to provide sampling and analysis guidance to be followed and to give advice on the uniform application of that guidance (paragraph 5.42.3);

.12 request the FSI Sub-Committee to take note of Guidelines (G2), after their adoption by an MEPC resolution, when developing the Guidelines on port State Control under the 2004 BWM Convention (paragraph 5.42.4);

.13 approve the Guidance document on arrangements for responding to emergency situations involving ballast water operations and instruct the Secretariat to issue a BWM Circular on this matter (paragraph 5.42.5 and annex 2);

.14 endorse the Sub-Committee's authorization to the Ballast Water Working Group to continue its work and submit Part 2 of its report directly to MEPC 58 subject to agreement by the Chairman of the MEPC (paragraph 5.42.9);

.15 note that the Ballast Water Working Group will be re-established during BLG 13 and endorse its Terms of Reference (paragraph 5.42.10 and annex 3);

.16 agree to change the title of the agenda item on "Development of guidelines for uniform implementation of the 2004 BWM Convention" to "Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention" as a high-priority item of the work programme of the Sub-Committee with a target completion date of 2010 (paragraph 5.42.11);

.17 consider draft amendments to MARPOL Annex I on prevention of pollution during transfer of oil cargo between oil tankers at sea and decide as appropriate (paragraph 8.23 and annex 8);

.18 note that the Sub-Committee agreed to establish an intersessional correspondence group on development of measures for minimizing the transfer of invasive aquatic species through bio-fouling of ships to further progress the issue and report to BLG 13 (paragraph 11.9);

.19 approve, subject to MSC 84's concurrent decision, the proposed revised work programme of the Sub-Committee and the provisional agenda for BLG 13 (paragraph 14.1 and annex 10);

.20 include a new high priority item on its work programme and agenda for BLG 13 on Amendments to MARPOL Annex I on the use and carriage of heavy grade oil (HGO) in the Antarctic area (paragraphs 14.2 and 16.12 and annex 11);

.21 endorse the course of action taken by the Sub-Committee, which was to approve BLG.1/Circ.23 on requirements for the carriage for Gas-to-Liquid oils and to also issue its content as an MEPC circular (paragraph 16.14 and annex 12); and

.22 approve the report in general.

***

ANNEX 1

DRAFT MEPC RESOLUTION

GUIDELINES FOR BALLAST WATER SAMPLING (G2)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by the international conventions for the prevention and control of marine pollution,

RECALLING ALSO that the International Conference on Ballast Water Management for Ships held in February 2004 adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the Ballast Water Management Convention) together with four Conference resolutions,

NOTING that regulation A-2 of the Ballast Water Management Convention requires that discharge of ballast water shall only be conducted through ballast water management in accordance with the provisions of the Annex to the Convention,

NOTING FURTHER that Article 9 of the Ballast Water Management Convention provides that, a ship to which the Convention applies may, in any port or offshore terminal of another Party, be subject to inspection by officers duly authorized by that Party for the purpose of determining whether the ship is in compliance with this Convention. Such an inspection is limited to, *inter alia*, a sampling of the ship's ballast water, carried out in accordance with the guidelines to be developed by the Organization,

NOTING ALSO that the International Conference on Ballast Water Management for Ships, in its resolution 1, invited the Organization to develop the Guidelines for uniform application of the Convention as a matter of urgency,

HAVING CONSIDERED, at its fifty-seventh session, the draft Guidelines for ballast water sampling (G2) developed by the Ballast Water Working Group, and the recommendation made by the Sub-Committee on Bulk Liquids and Gases at its twelfth session,

1. ADOPTS the Guidelines for ballast water sampling (G2) as set out in the annex to this resolution;

2. INVITES Governments to apply the Guidelines as soon as possible, or when the Convention becomes applicable to them; and

3. AGREES to keep the Guidelines under review.

* * *

DRAFT GUIDELINES FOR BALLAST WATER SAMPLING (G2)

1 INTRODUCTION

1.1 The objectives of these Guidelines are to provide Parties, including port State control officers, with practical and technical guidance on ballast water sampling and analysis for the purpose of determining whether the ship is in compliance with the Ballast Water Management Convention (the Convention) according to Article 9 "Inspection of Ships". These Guidelines only address general technical sampling procedures, and do not address legal requirements.

1.2 These Guidelines provide general recommendations for ballast water sampling by port State control authorities. Guidance on sampling procedures for use by Parties in assessing compliance with regulations D-1 or D-2 is given in the annex to these Guidelines.

1.3 Sampling by port State control or other authorized officers, should seek to use methods that are (a) safe to the ship, inspectors, crew and operators; and (b) simple, feasible, rapid and applicable at the point of ballast discharge.

1.4 The time needed for analysis of samples shall not be used as a basis for unduly delaying the operation, departure, or movement of the vessel. Article 12 of the Convention applies. Additionally, the use of validated automated systems for ballast water sampling and analysis should be explored when the developments of such systems are sufficiently progressed.

2 BACKGROUND

2.1 Sampling requirements for compliance control of regulations D-1 and D-2 of the Convention will differ as these two regulations have significantly different parameters. Sections 2.2 and 2.3 below reproduce the text contained in the Convention.

2.2 Ballast water exchange standard (D-1)

2.2.1 Ships performing ballast water exchange in accordance with regulation D-1 of the Convention shall do so with an efficiency of at least 95 per cent volumetric exchange of ballast water.

2.2.2 For ships exchanging ballast water by the pumping-through method, pumping through three times the volume of each ballast water tank shall be considered to meet the standard. Pumping through less than three times the volume may be accepted provided the ship can demonstrate that at least 95 per cent volumetric exchange is met.

2.3 Ballast Water Performance Standard (D-2)

2.3.1 Regulation D-2 of the Convention refers to two size categories of organisms and a group of indicator microbes. Ships conducting ballast water management in accordance with regulation D-2 shall discharge:

.1 less than 10 viable organisms per cubic metre greater than or equal to 50 micrometres in minimum dimension; and

.2 less than 10 viable organisms per millilitre less than 50 micrometres in minimum dimension and greater than or equal to 10 micrometres in minimum dimension; and

.3 discharge of the indicator microbes shall not exceed:

(i) Toxicogenic *Vibrio cholerae* (O1 and O139) with less than 1 colony forming unit (cfu) per 100 millilitres or less than 1 cfu per 1 gramme (wet weight) zooplankton samples;

(ii) *Escherichia coli* less than 250 cfu per 100 millilitres; and

(iii) Intestinal Enterococci less than 100 cfu per 100 millilitres.

3 DEFINITIONS

3.1 For the purpose of these Guidelines, the definitions as stated in the Convention apply and:

.1 "Minimum Dimension" means the minimum dimension of an organism based upon the dimensions of that organism's body, ignoring e.g. the size of spines, flagellae, or antenna. The minimum dimension should therefore be the smallest part of the "body" i.e., the smallest dimension between main body surfaces of an individual when looked at from all perspectives. For spherical shaped organisms, the minimum dimension should be the spherical diameter. For colony forming species, the individual should be measured as it is the smallest unit able to reproduce that needs to be tested in viability tests.

.2 "Sampling Point" means that place in the ballast water piping where the sample is taken.

.3 "Sampling Facilities" means the equipment installed to take the sample.

4 SAMPLING FOR COMPLIANCE WITH THE BALLAST WATER EXCHANGE STANDARD (REGULATION D-1)

4.1 In-tank samples may be taken via sounding or air pipes and manholes by using pumps, sampling bottles or other water containers. Samples may also be taken from the discharge line.

4.2 Sampling the ballast water on arriving ships may provide information on compliance with regulation B-4 of the Convention by analysing their physical and/or chemical parameters. However, it is difficult to use indicator (physical/chemical) parameters in isolation to conclusively prove that ballast water exchange either has or has not occurred to the D-1 Standard. As with any analytical procedures or techniques used to test for compliance with regulation B-4, methods used to test for compliance with ballast water exchange requirements should be rigorously validated and widely distributed through the Organization.

5 SAMPLING FOR COMPLIANCE WITH THE BALLAST WATER PERFORMANCE STANDARD (REGULATION D-2)

5.1 Although the Convention contains no requirements for provision of sampling points, the Guidelines for approval of ballast water management systems (G8) adopted by resolution MEPC.125(53) do expressly call for the provision of sampling facilities, not only for the purpose of type approval, but also for the purpose of these ballast water sampling Guidelines (refer to paragraphs 3.2, 3.8, and section 8 of the Guidelines for approval of ballast water management systems (G8) for further detail regarding provision of sampling facilities).

5.2 Samples should be taken from the discharge line, as near to the point of discharge as practicable, during ballast water discharge whenever possible.

5.3 In cases where the ballast system design does not enable sampling from the discharge line, other sampling arrangements may be necessary. Sampling via manholes, sounding pipes, or air pipes is not the preferred approach for assessing compliance with regulation D-2. Scientific trials have shown that using these sampling locations may not provide accurate estimates of organism concentrations that would occur in the discharge, i.e., such sampling may provide an under- or over-estimate of the concentration of organisms.

5.4 In-tank sampling should only be used if ballast water treatment occurs on uptake prior to or whilst ballast water is in the tank. If any part of the treatment process occurs during the ballast water discharge, then in-tank sampling will be inappropriate.

5.5 In light of these potential shortcomings, sampling to determine compliance with regulation D-2 should, whenever practicable to do so, be carried out in the discharge line near the discharge point.

5.6 An exception to this is the case when tanks are emptied through direct overboard discharge valves, as in upper side wing tanks, rather than through the ballast pumps. In such cases, tank sampling may be an appropriate approach.

6 BALLAST WATER SAMPLING AND ANALYSIS

6.1 In accordance with Article 9 of the Convention, a Party may sample the ship's ballast water for the purpose of determining whether the ship is in compliance with the Convention in accordance with these Guidelines.

6.2 Any sampling protocol should observe the following principles to help ensure consistency of approach between Parties and to provide certainty to the shipping industry:

.1 the sampling protocol should be in line with these Guidelines;

.2 the sampling protocol should result in samples that are representative of the discharge;

.3 the sampling protocol should take account of the potential for a suspended sediment load in the discharge to affect sample results;

.4 the sampling protocol should provide for samples to be taken at appropriate discharge points;

.5 the quantity and quality of samples taken should be sufficient to demonstrate whether the ballast water being discharged meets with the relevant standard;

.6 sampling should be undertaken in a safe and practical manner;

.7 samples should be concentrated to a manageable size;

.8 samples should be taken, sealed and stored to ensure that they can be used to test for compliance with the Convention;

.9 samples should be fully analysed within test method holding time limit using an accredited laboratory; and

.10 samples should be transported, handled and stored with the consideration of the chain of custody.

6.3 Prior to testing for compliance with the D-2 standard, it is recommended that, as a first step, an indicative analysis of ballast water discharge may be undertaken to establish whether a ship is potentially compliant or non-compliant. Such a test could help the Party identify immediate mitigation measures, within their existing powers, to avoid any additional impact from a possible non-compliant ballast water discharge from the ship.

6.4 In emergency or epidemic situations, port States may use alternative sampling methods which may need to be introduced at short notice and should endeavour to communicate these to ships entering ports under their jurisdiction. Although in such situations they may not necessarily notify the Organization, such notification could be beneficial for other Parties.

6.5 Alternative sampling measures instigated as a result of paragraph 6.4 should give due cognizance to the requirements of Article 12 of the Convention.

6.6 Given the complexity in ballast water sampling and analysis, it is likely that new approaches will be developed for ballast sampling and analyses of the composition, concentration, and viability of organisms. Administrations are encouraged to share information concerning methods for the analysis of ballast water samples, using existing scientific reports, and papers distributed through the Organization.

6.7 The Organization should make available, through any appropriate means, information communicated to it regarding ballast water sampling and analysis.

6.8 Further guidance on the interpretation of the results arising from sample analysis will be developed by the Organization in due course.

* * *

ANNEX

This annex provides practical recommendations regarding sampling techniques and procedures for use by Member States and port State control and other authorized officers assessing compliance with regulations D-1 or D-2.

PART 1 SAMPLING FROM THE BALLAST WATER DISCHARGE LINE
PART 2 SAMPLING FROM BALLAST WATER TANKS
PART 3 SAMPLING AND ANALYSIS PROTOCOLS
PART 4 SAMPLE DATA FORMS
PART 5 HEALTH AND SAFETY ASPECTS
PART 6 RECOMMENDED STANDARD BALLAST WATER SAMPLING KIT
PART 7 MAINTENANCE, STORAGE, LABELLING AND TRANSPORTATION
PART 8 CHAIN OF CUSTODY RECORD

PART 1 – SAMPLING FROM THE BALLAST WATER DISCHARGE LINE

1 The advantage in sampling the biota present in the ballast water discharge line is that this is most likely to accurately represent the concentration of substances and organisms in the actual discharge, which is of primary concern in assessing compliance with the discharge regulations.

2 The disadvantages of this method are that, on most ships, in-line sampling must be carried out in the engine room, where space may be limited, and the handling of water once the samples were concentrated may be impracticable.

3 In order to undertake an accurate measurement on the organism concentration in the ballast water, it is recommended to install an "isokinetic" sampling facility. Isokinetic sampling is intended for the sampling of water mixtures with secondary immiscible phases (i.e., sand or oil) in which there are substantial density differentials. In such conditions, convergence and divergence from sampling ports is of significant concern. Since most organisms are relatively neutrally buoyant, true isokinetic sampling is unnecessary. However, the mathematics related to isokinetic sampling are deemed to be useful as a basis for describing and specifying sampling geometries. Isokinetic sampling is necessary to ensure that a sample contains the same proportions of the various flowing constituents as the flow stream being sampled. During isokinetic sampling the sampling device does not alter the profile or velocity of the flowing stream at the moment or point at which the sample is separated from the main flow stream. Under isokinetic conditions, the velocities of both the sample and the main flow are equal at the point at which the sample is separated from the main flow. To achieve isokinetic sampling conditions, a sampler is designed to separate a subsection of the total flow-stream in a manner that does not encourage or discourage water entry other than that which is otherwise in the cross-section of the sampler opening. In other words, flow streams in the main flow of the pipe should not diverge or converge as they approach the opening of the sampler.

4 Technical specifications for design of in-line sampling facilities

4.1 Through computational fluid dynamics modeling, it has been shown that the isokinetic diameter calculation can provide guidance for sizing of sample ports for sampling of organisms. Simulations showed that flow transitions from the main stream were best for sample port diameters between 1.5 and 2.0 times the isokinetic diameter. Ports sized in this range had smooth transitions and pressure profiles that allowed for direct sampling without the need of a pump to

induce sample collection. The isokinetic sample port diameter should therefore be determined generally according to the equation:

$$Diso = Dm\sqrt{Qiso / Qm}$$

where Diso and Dm are the diameters of the sample port opening and the main flow in the discharge line, respectively; and Qiso and Qm represent the respective volumetric flow rates through the two pipes. It is recommended that sample port size be based on the combination of maximum sample flow rate and minimum ballast flow rate that yields the largest isokinetic diameter.

4.2 The opening of the sampling pipe should be chamfered to provide a smooth and gradual transition between the inside and outside pipe diameters.

4.3 The length of the straight sample pipe facing into the flow can vary, but should not usually be less than one diameter of the sampling pipe. The sampling port should be oriented such that the opening is facing upstream and its lead length is parallel to the direction of flow and concentric to the discharge pipe which may require sampling pipes to be "L" shaped with an upstream facing leg if installed along a straight section of discharge pipe.

4.4 The need to be able to service the sample pipe is important and should be considered, taking the safety of ship into consideration. Therefore, the sampling pipe should be retrievable either manually, or mechanically, or it must be in a system which can be isolated. Because of the potential for the opening and interior of the sample pipe to become occluded by biological or inorganic fouling, it is recommended that samplers be designed to be closable at the opening, removed between sampling intervals or be easily cleaned prior to sampling.

4.5 The sample pipe and all associated parts of the sampler that come into contact or near proximity with the ballast piping should be constructed of galvanically compatible materials and generally corrosion resistant. Any corrosion of the sampling system will affect sample flow rates and potentially sample representativeness.

4.6 If flow control of the sample flow rate is required, ball, gate and butterfly valve types should be avoided as they may cause significant shear forces which may result in organism mortality. For flow control, it is recommended that diaphragm valves or similar valve types be used to minimize sharp velocity transitions. For flow distribution, ball valves may be utilized in such a manner that they are either fully open or fully closed.

5 Technical specifications for installation of a sample point in the ballast water discharge line

5.1 The sample taken should be removed from the main pipeline at a location where the flowing stream at the sample point is representative of the contents of the stream. The sample facility should be placed at a point where the flow in the main pipe is fully mixed and fully developed.

5.2 The sampling point should be installed in a straight part of the discharge line as near to the ballast water discharge overboard as practicable. The sampling facility should be positioned

such that a representative sample of ballast water is taken. It is recommended that the position of the sample point is established using methods such as computational fluid dynamics.

PART 2 – SAMPLING FROM BALLAST WATER TANKS

1 In-tank sampling may be appropriate for assessing D-1 compliance. There may be circumstances when in-tank sampling to provide an indication of compliance or non-compliance with the ballast water performance standard D-2 may be found appropriate. D-2 compliance should be assessed at ballast water discharge, whenever this is possible.

2 Manholes

2.1 Sampling of ballast water via manholes allows direct access to ballast tanks and ballast holds.

2.2 The disadvantages of this type of sampling access include the need for opening and closing manholes and hatches. Further, overlaying cargo may prevent access for sampling. Also, hatches and horizontal openings inside tanks are not aligned one below the other, which means that although the tank may have three or more decks, only the top deck may be accessible for sampling. Further, in some ships, access hatches and vertical openings are on the side of the tank and thus are not accessible unless the tank is empty. Another disadvantage is ladders and platforms may inhibit access to the full depth of the tank. Sampling from some certain parts of the ballast water tank may result in a lack of representation of the whole ballast water discharge.

2.3 Samples should be collected using scientific sampling equipment including plankton nets and pumps, as appropriate, for the sampling and analytical method intended for use.

2.4 Whenever possible samples should be taken from multiple water depths inside the ballast tank.

2.5 When employing plankton nets:

.1 the sample should be taken in a vertical net haul from the deepest sampling point accessible in the tank;

.2 all plankton nets should be lowered to the maximum accessible depth inside the ballast tank and retrieved at a speed of approximately 0.5 m/s; and

.3 multiple vertical net hauls may be needed to meet the required sample volume. The water volume sampled may be measured by flow meters in the opening of the net or by noting the sampling depth and net opening diameter.

2.6 When employing pumps:

.1 pump intake pipes should be lowered to multiple depths (if possible) for different samples to obtain a vertical sample; and

.2 the water volume sampled may be measured by flow meters in the hose or by using larger containers to measure the pumped water volume.

3 Sounding pipes or air pipes

3.1 Sampling by sounding pipes, when available, could be appropriate due to accessibility. However, there are some limitations when using this point to test for compliance. The use of sounding pipes will be more effective when the ship's sounding pipes are perforated along their length, ensuring better mixing of ballast water and that within the sounding tube. However, care must be taken if initial water samples from a sounding pipe indicate no or insufficient exchange even though the ship's records document otherwise. Experience has shown that in some cases water within unperforated sounding pipes is not affected during an exchange. This may occur during flow-through because the water in pipes is not exposed to the mixing within the tank. This may also occur during empty refill when water in the sounding pipes is held within the pipe by vacuum pressure while the tanks are drained and then filled.

3.2 Samples should be collected using scientific sampling equipment as appropriate.

4 Use of pumps

4.1 Pumps of various types may be used to sample via sounding or air pipes.

4.1.1 The use of pumps may be limited by inability to overcome the pumping head, i.e., when the vertical distance from the pump to the water level in tank exceeds 10 metres, suction pumps cannot be used.

4.1.2 Pump intake pipes should be lowered to multiple depths (if possible) for different samples to obtain a vertical sample. The water volume sampled may be measured by flow meters in the hose or by using larger containers to measure the pumped water volume.

4.2 In principle, intrinsically safe pumps should be used in all circumstances.

4.3 Pumps that do not contribute to the mortality of organisms should be preferred.

PART 3 – SAMPLING AND ANALYSIS PROTOCOLS

1 The sample volume and number of samples required will depend upon:

.1 the objective of sampling, e.g., to determine the number of organisms in different size classes; to assess the viability of organisms in different size classes; or to assess compliance with the D-1 or D-2 standard;

.2 the specific analytical method to be used; and

.3 the statistical significance and certainty required.

2 Sample handling and storage will also vary depending on the objectives and specific analytical methods. In particular the way the sample is taken (e.g., net or pump) and the conditions in which it is stored (e.g., light, temperature, storage container) must be appropriate for the analytical method used.

3 Sample analysis methods are rapidly developing and the best available procedures should be used consistently with availability.

4 The sampling and analysis methodologies to test for compliance with the Convention are still in development. Although significant technical advances and refinements have been made in these areas since the adoption of the Convention, there are still numerous issues to be resolved. Administrations are still undertaking research to define the most appropriate methods to test for compliance, and the best way to take, handle and analyse samples.

5 At the present time, there are no specific sampling or analysis protocols that can be recommended for Administrations to use. However, it is expected that in due course this information is likely to become available once full compliance testing regimes are developed and Administrations have had time to gain experience and develop best practice in ballast water sampling and analysis.

6 Prior to the entry into force of the Convention, an IMO circular will be developed to provide sampling and analysis protocols to be followed and give advice on the uniform application of these protocols. Such a circular will be updated when new protocols are developed.

7 To aid this process, Administrations are requested to supply information on any scientifically validated sampling and analysis techniques to the Organization, as soon as possible.

PART 4 – SAMPLE DATA FORM

The following minimum information is recommended for sample documentation:

Sampling date	
Ship particulars	**Name of ship:** Distinctive number or letters Port of registry: Gross tonnage: IMO Number: Date of construction: Ballast water capacity:
Identification of sampled tank*	
Type and position of sampled tank*	
Capacity of sampled tank*	(m^3)
Type of ballast water management undertaken	(type of exchange or treatment)
Make of ballast water management system	
Date of ballast water management undertaken	
Sample identification code	(including number of replicate)
Sample type	(larger, smaller plankton, microbes)
Sampling techniques used	net (incl. depth of vertical net haul, net opening size, mesh size) pumps (incl. sampling depth, pumping capacity in l/min.) bottle (incl. sampling depth, bottle capacity in l.) specify other sampling technique if used
Sampling time / start	
Sampling end time	
Origin of water sampled *	(lat/lon/ port)

* If appropriate.

Type of sampling access point	
Location of sampling access point	
Water volume sampled	(by volume)
In case sample is concentrated on board specify filter or net sizes (if applicable)	(µm)
Preservative (if used)	
Transport to laboratory	cooling container, dark storage, etc.
Sample results	

* If appropriate.

Other information as necessary should be included in the table.

PART 5 – HEALTH AND SAFETY ASPECTS

1 As shipboard and port State control procedures on health and safety aspects already exist there is no need to develop new procedures for the purpose of ballast water sampling. In general, ship procedures, especially for entry into enclosed spaces, shall be followed if more stringent than national regulations. However, the following paragraphs provide some additional guidance.

2 Worker health and safety must be a primary consideration during all the sampling operations as ships and ports are hazardous environments in which to work. Any sampling operation should be undertaken after consideration of the specific risks associated with the ballast water being sampled. Appropriate personal protective equipment connected with the work should be worn as necessary.

3 In the event sampling involves entry into confined spaces, Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)) and relevant IACS Recommendations on confined space safe practice (www.iacs.org.uk), and standard industry practice on man entry into enclosed spaces should be consulted (e.g., ISGOTT).

4 All electrical equipment, including torches, must be intrinsically safe for use on board ships when required. Safety limitations on the use of mobile telephones, etc., should always be observed. Standard industry practice on the use of electrical equipment including mobile telephone should be consulted (e.g., ISGOTT).

5 All electrical equipment to be used aboard should be checked to ensure that it is intrinsically safe. Pumps in particular should be fitted with waterproof junctions at the point where the electrical lead passes into the pump body and all plugs should be waterproof with rubber casings. If there is any doubt about an electrical supply or equipment aboard a vessel, advice from the ship's master or a member of the port company electrical staff should be sought.

PART 6 – RECOMMENDATION FOR A PORT STATE CONTROL BALLAST WATER SAMPLING KIT

1 The sampling kit for discharge line sampling should in minimum consist of:

- net or sieve to concentrate sample (with replacement material of identical mesh size);

- at least two containers to measure water volume extracted from discharge line. The container is further needed to collect sieved water for rinsing sieve or net when sampling is completed;
- water appropriate for rinsing net or sieve;
- funnel to ease filling of sample container;
- sample containers including sterile containers for microbial analysis;
- all necessary forms including sample data reporting / chain of custody forms;
- toolkit to enable net or sieve replacement, etc.;
- tape to seal the sample jar lid to the jar; and
- first aid kit.

2 The sampling kit for manhole sampling should in minimum consist of:

- plankton net with an associated flow meter – scientific trials have shown that plankton nets equipped with a cone shaped opening and filtering cod-end provide the most accurate samples. Nets to be lowered down into the tank should further not exceed 1 m in length and 30 cm in diameter to reduce the risk to become entangled inside the tank. A spare net including an extra cod end should be added to the sampling kit in case damages occur. A weight (minimum 1 kg) should be used to keep the wire vertical during the net haul;
- rope to lower down net (the rope should be metered to document net haul depth);
- net or sieve to concentrate sample (with replacement material of identical mesh size) Spare sieves with identical mesh size should be added to the sampling kit in case damages occur;
- collecting sieved water for rinsing sieve and plankton net when sampling is completed;
- water bottle to rinse net or sieve;
- funnel to ease filling of sample container;
- sample containers including sterile containers for microbial analysis;
- all necessary forms including sample data reporting /chain of custody forms;
- toolkit to enable net or sieve replacement, etc.;
- tape to seal the sample jar lid to the jar; and
- first aid kit.

3 The sampling kit for sounding or air pipe sampling should in minimum consist of:

- pump (e.g., suction, power or air driven);
- hose (optional with weight to ease lowering down the hose);
- net or sieve to concentrate sample (with replacement material of identical mesh size);
- at least two containers to measure water volume pumped on deck. The container is further needed to collect sieved water for rinsing sieve when sampling is completed and to rinse hose;
- water bottle to rinse net or sieve;
- funnel to ease filling of sample container;
- sample containers including sterile containers for microbial analysis;
- all necessary forms including sample data reporting/chain of custody forms;
- toolkit to enable net or sieve replacement, opening of sounding or air pipes, etc.;
- tape to seal the sample jar lid to the jar; and
- first aid kit.

PART 7 – MAINTENANCE, STORAGE, LABELLING AND TRANSPORTATION

1 Samples should be handled and stored as appropriate for the intended analytical method. The sample collection data form and chain of custody record should be kept with each individual sample.

2 Sample Sealing: Tape should be used to seal the sample jar lid to the jar.

3 Sample data forms: Prior to the beginning of the sampling programme, a suitable set of recording forms based on part 4 should be designed which incorporate all the sample information required to meet the aims of the programme. Details of each sample must be entered on the forms as soon as practicable.

4 Labelling of sample containers: Each sample container must be labelled by, e.g., using a waterproof permanent marker and additional vegetal paper which may be deposited inside the sample container, if appropriate. The information recorded should include but not be limited to the date, ship name, sample identification code, tank numbers and preservative if used. Codes may be used for some of these details as long as they are included on the sample data forms.

PART 8 – CHAIN OF CUSTODY RECORD

1 In the context of compliance control, it is advisable to maintain chain of custody records for the samples collected.

2 Information to be included must contain a complete record of those handling the sample from the time of the sampling onwards.

3 The chain of custody should also include date, ship identification, sample identification code, and a list of people who have handled the sample, including the person who takes the sample, dates and time, and the reason for sample transfer and the integrity of the sample on transfer.

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ANNEX 2

DRAFT GUIDANCE DOCUMENT ON ARRANGEMENTS FOR RESPONDING TO EMERGENCY SITUATIONS INVOLVING BALLAST WATER OPERATIONS

1 Introduction

1.1 The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the Convention) regulates the transfer of harmful aquatic organisms and pathogens from ships' ballast water and sediments. This Convention gives a Party, individually or jointly with other Parties, the right to introduce additional measures (e.g., immediate control measures in emergency or epidemic situations) in accordance with regulation C-1, taking into account the Guidelines for additional measures regarding ballast water management including emergency situations (G13).

1.2 The technical recommendations contained in this document provide guidance for use in emergency/epidemic situations, when specific and rapid measures need to be taken to prevent major threats and damages from the transfer of harmful aquatic organisms and pathogens through ballast water. This guidance would assist a Party to rapidly identify appropriate measure(s) whenever emergency situations occur in relation to ballast water operations. Countries should analyse the risks and nature of the threats that are posed by ballast water transfer in their waters and develop the structure that best suits them, taking into consideration the specific characteristics of the ecosystems involved and the resources available to them. This Guidance is not intended as a mandatory model or a set structure to be followed during potential or actual emergencies.

1.3 Examples of when an emergency situation may arise include:

- The introduction of organisms that may cause significant damage to the human population, human food supply, industry or other economic activities, or an area's natural biodiversity; or,

- The threat of such an introduction through ballast water from a vessel that has come from another emergency area.

1.4 Appropriate and efficiently applied emergency measures are vital to minimizing both the potential damage in an affected area and the risk of other areas being affected. Emergency situations relating to environmental, economic and human health issues may represent an immediate threat to a particular location, or to neighbouring locations, as well as areas to be visited by vessels carrying ballast water from this location.

1.5 Rapid and correct handling of the emergency will also affect the likelihood of normalizing the situation in the longer term. It should be noted, however, that the priority for emergency situations should be the prevention of introduction of harmful aquatic organisms and pathogens. Once a relevant species has gained a foothold in an area, it will be very difficult to eradicate it without causing additional significant environmental or habitat damage. Often terrestrial eradication measures do not transfer easily into the coastal, tidal and marine environment.

2 Objective

2.1 The objective of this document is to provide guidance for the planning and implementation of effective measures in emergency situations related to ballast water operations, in order to minimize damage and to enable rapid normalization of the operation of ports and ships.

3 Application

3.1 This guidance document has been developed for Government agencies, bodies and institutions involved in, and responsible for, regulating and controlling harmful aquatic organisms and pathogens (including ballast water management), ports and other interested parties and stakeholders. However, for them to work, industry co-operation will be needed at the time of the emergency.

4 Emergency response planning

4.1 Emergency planning should be undertaken at the appropriate level for the country concerned, based on the risks faced from the introduction of harmful aquatic organisms and pathogens through ballast water. The appropriate level should be defined by the specific nature of the threat and can be at a national level, or if the threat is justified, at a bioregional, regional, estuary or port level. Alternatively, it could be undertaken on a regional seas level, in conjunction with other Member States. However, a sustainable balance between environmental protection and the social and economic impacts from delays or interruptions to port and ship operations, needs to be obtained.

4.2 Such planning should result in the formation of an Emergency Response Plan based upon identified scenarios. Such scenarios should be provided by undertaking a risk assessment to identify problems that are likely to occur. The size and content of such a Plan should be appropriate to provide a robust response to the high risk problems identified. By adopting this approach, a Member State can identify how to rapidly implement appropriate mitigation measures and establish preventative procedures, allocate resources, and conduct training. Provision of such resources should be based upon the appropriate risk, and be focussed on mitigating any high risk scenarios. In practice, such measures are likely to be very simple and may only be identifiable for situations where ballast water discharges from certain vessels need to be prevented. The Party may also wish to broaden the scope of the Plan to cover other potential vectors for harmful aquatic organisms and pathogens, such as bio-fouling or accidental release of aquarium species.

4.3 In order to identify the most appropriate means of reducing the immediate threats represented by the emergency and to limit the longer-term consequences it may cause, an understanding of the threat is critical. The process of identifying and applying the most appropriate response must reflect the nature of the potential incident and its likely occurrence. Planning any response should include:

- identification of the potential source(s) of introduction and emergencies that could occur;
- calculation of the risk that these potential emergency scenarios may occur;

- identification of the impact of each potential scenario, beginning with the emergency that is most likely to occur. This should include the impacts on human health issues, proliferation of diseases and epidemics, damage to biodiversity and economic risk;

- identification of mitigation measures to reduce these risks should they arise;

- identification of measures to be implemented to mitigate an emergency situation, with appropriate co-ordination and clear identification of responsibilities for actions;

- identification of process to determine limits of the affected area; and

- identification of the responsible parties, including the lead agency, communication links, resources and information that will facilitate this decision making process and the resulting emergency operations.

It should be noted that information and data collection will be an integral part of each of these stages. This could be provided by, amongst others, existing physical, biological and chemical datasets of the environment; local knowledge (especially from fishermen and local boat operators); existing biological, physical and public health prediction programme/models; knowledge of vectors (such as shipping, fishing vessels, and recreational vessels) that could transfer harmful aquatic organisms and pathogens; and, expertise from third parties and other Parties to the Convention.

5 Risk assessment

5.1 A Party should identify the threats its coastal areas are exposed to by vessels discharging ballast water. Assessing such threats may be done by applying a risk assessment model. Such assessments may enable the identification of likely threat scenarios upon which an emergency strategy may be developed, taking into account the specific environmental and human health concerns, socio-economic impacts of an invasion, commitments in relation to any regional agreements, safety and biosecurity. The risk assessment procedure may be based upon the risk assessment principles defined in the Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7).

6 Preparedness

6.1 For the identified higher risk scenarios, an assessment of the appropriate and readily available support and resources should be undertaken and, to the extent possible, a procedure should be set up to obtain such environmental and health-related resources when necessary. It is also recommended that the relevant resources to respond and mitigate these higher risk scenarios are identified along with an assessment of where they can be obtained from. Equipment can be sourced from existing resources, stockpiled resources, call-off contracts or a contract with a third party to provide equipment and/or management of the emergency. It should be noted, however, that the level of resources actually needed, will be a fraction of that needed for an oil or chemical spill, and simple technology should be used to mitigate any impacts. For example, the use of land-based tanks, when available, to receive ballast water from a ship that has arrived from another emergency area.

6.2 Agreements should also be established with capable institutions with relevant resources, experience and knowledge, in order to guarantee the provision of appropriate services and resources in case of an emergency. A network of experts may be identified either within the country, within a region or internationally. It should be noted that these resources should only be identified where the threat is very high, otherwise significant resources could be wasted and sit idle. Information on resource availability and capacity should be regularly updated in the Emergency Response Plan.

6.3 It is recommended that a procedure and a sampling format for emergency situations is developed in the Emergency Response Plan, in line with the IMO's Guidelines for ballast water sampling (G2). Ballast water samples, from one or more ships, as well as from port water, may need to be analysed. It may also be necessary to establish temporary environmental monitoring in certain areas which should be clearly identified, delimited and defined. These procedures should also make provisions for: sending and receiving samples; correct preservation and packaging; chain of custody arrangements; analysis methodologies; and identifying capable laboratories.

7 Responsibilities

7.1 The Emergency Response Plan should establish an appropriate organizational structure in order to handle those emergency situations deemed likely to occur. Sufficient and appropriate management resources should be identified. Resource capability for emergency response should be available at all times. The ability to quickly cascade information on a particular threat is vital.

7.2 A Lead Agency should be identified (which in reality should be the Administration or another Government body) to take overall responsibility for emergency response. This includes the allocation of responsibilities and competence requirements. This could be done in parallel with oil and chemical spill plans and contingency planning, or in parallel with terrestrial pest and disease response arrangements. The Lead Agency should be authorized to request or to provide assistance whenever necessary.

7.3 The Lead Agency would be responsible for both implementing and standing down the emergency operation. During an incident the area of concern should be identified and be designated with an Emergency Status. This status should be replaced by a note of normalization once the emergency has passed and the response has been stood down. The declaration of an emergency should activate the procedures appropriate to the threats being faced. When these measures have been identified, agreed, and implemented, the emergency operation may enter into an operational phase where the Emergency Status may be lifted. This should happen following proven improvements of the situation where the level of risks and threats can be properly controlled. Criteria for both these options should be identified in the Emergency Response Plan. The Lead Agency should monitor the development of the situation and should lift the Emergency Status as soon as it is deemed appropriate to do so.

7.4 The Lead Agency should develop a responsibility matrix to be incorporated in the Emergency Response Plan. Roles and responsibilities may be defined for the following parties:

- authorities including maritime, environmental, public health, port, and legal organizations;

- the owner, operator, shipping company, shipping agencies and ships;
- classification societies or recognized organizations;
- any supporting organization, e.g., research centres, universities, consulting and specialized services companies, reception facilities, etc.;
- representatives from the industry, tourism, fishing, aquaculture, etc.;
- analysis laboratories; and
- manufacturers of systems and equipment for treating ballast water.

8 Notification

8.1 The appointed Lead Agency should develop procedures in the Emergency Response Plan for the immediate notification of all stakeholders of any emergency status, or change in that status, in areas under the jurisdiction of the Party. These include mariners, ports, ship agents, local authorities and the International Maritime Organization (the Organization). The notification should identify the area to which the emergency status applies (delimiting the area in terms of latitude and longitude) as well as the cause of the emergency status.

8.2 Ships carrying ballast water away from a declared emergency status area should also be notified. Such notification should be done through the ship's flag State and should include the ship's name, IMO number, call sign, flag and position (in terms of latitude and longitude at the moment of such notification), origin, destination and route. Any relevant port States should also be notified with the estimated time of arrival of the ship in question. Such vessels may be considered of high risk and be subjected to a risk assessment (in accordance with the Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7)). They also may have any exemptions granted under regulation A-4 withdrawn and be subject to additional ballast water management procedures.

8.3 Each State should also notify the Organization about critical areas where uptake and discharge of ballast water is prohibited, presenting their geographical limits, also indicating the motives for such decision, as well as whether the prohibition is temporary or permanent.

8.4 It is recommended that standard format for such notification is developed and, as appropriate, be included in the Emergency Response Plan.

9 Other elements in an Emergency Response Plan

9.1 Communication procedures between the institutions involved in the emergency response operation should be identified and established. A list containing national contact points and any dormant contract arrangements should also be prepared and maintained.

9.2 The Administration should facilitate the immediate entry into the country of resources and experts from other Member States under the same conditions as provided for in IMO's OPRC Convention, so that they can be deployed and give assistance as fast as possible.

10 Preventive actions

10.1 An emergency situation may be caused by vessels arriving from an area subjected to an emergency or epidemic situation (see paragraph 8.2). In such case, a measure may be established to prohibit the ship from discharging ballast water in certain areas (e.g., inside 200 nautical miles from the coast of the Party). In this case, the Party should be responsible for providing proper guidance to the ship's master, identifying alternative ballast water management measures and for sending information to the Organization. In all cases, the safety of the ship and its crew should be a primary consideration. Options for such action should be laid down in the Emergency Response Plan.

10.2 For certain emergency situations, appropriate surveillance methods (e.g., maritime crafts, aircrafts, remote sensing, etc.) should be developed in order to define and monitor the status of areas affected by the growth of toxic algae, or other outbreaks of harmful aquatic organisms and pathogens.

10.3 Examples of the impacts from existing harmful aquatic organisms and pathogens or epidemics that have already occurred should be incorporated in the Emergency Response Plan and the plan should be reviewed regularly to incorporate best practice and lessons learnt. Brief information on how problems have been mitigated could also be included.

11 Technical and scientific co-operation

11.1 Administrations should also share experiences of how they have responded, or are planning to respond, to emergency situations through the Organization, so that best practice can be promulgated. Reports following emergencies should contain descriptions of the problem, mitigation measures, timescales, source, damages and losses caused, as well as any technical recommendations resulting from these experiences.

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ANNEX 3

DRAFT TERMS OF REFERENCE FOR THE BALLAST WATER WORKING GROUP AT BLG 13

The Ballast Water Working Group is instructed to take into consideration the comments made in plenary and to:

.1 continue the development of the Procedure for assessing "same levels of protection" of, and approval for, other methods of ballast water management under regulation B-3.7 of the BWM Convention;

.2 develop a guidance document on how chemicals used to treat ballast water should be handled and stored on board, taking into account relevant existing IMO Conventions and Codes, using document BLG 12/5/4 (United Kingdom) as a starting point for further development of an MEPC circular or resolution as appropriate;

.3 develop a guidance document on safety procedures for ships' crew against risks associated with ballast water management systems that make use of Active Substances taking into account relevant existing IMO Conventions and Codes using document BLG 12/5/4 (United Kingdom) as a starting point for further development of an MEPC circular or resolution as appropriate;

.4 further consider the text changes suggested in paragraphs 7 and 8 of document MEPC 56/2/8 regarding the GESAMP–BWWG Methodology;

.5 initiate the development of an IMO circular to provide sampling and analysis protocols and to give advice on the uniform application of these protocols;

.6 consider documents MEPC 56/2/4 (Japan) and MEPC 56/2/12 (Republic of Korea) regarding the issue of interpretation of dates in the BWM Convention, taking into account comments made by IACS during MEPC 56; and

.7 submit a written report on the work carried out, including recommendations to MEPC 59, for consideration by the Sub-Committee.

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ANNEX 4

DRAFT AMENDMENTS TO MARPOL ANNEX VI

Regulations for the Prevention of Air Pollution from Ships

CHAPTER I – GENERAL

Regulation 1
Application

The provisions of this Annex shall apply to all ships, except where expressly provided otherwise in regulations 3, 5, 6, 13, 15, and 18 of this Annex.

Regulation 2
Definitions

For the purpose of this Annex:

(1) *A similar stage of construction* means the stage at which:

(a) construction identifiable with a specific ship begins; and

(b) assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less.

(2) *Auxiliary control device* means a system, function, or control strategy installed on an engine that is used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure, or that is used to facilitate the starting of the engine. An auxiliary control device may also be a strategy or measure that has been satisfactorily demonstrated not to be a defeat device.

(3) *Continuous feeding* is defined as the process whereby waste is fed into a combustion chamber without human assistance while the incinerator is in normal operating conditions with the combustion chamber operative temperature between 850°C and 1200°C.

(4) *Defeat device* means a device which measures, senses, or responds to operating variables (*e.g.*, engine speed, temperature, intake pressure or any other parameter) for the purpose of activating, modulating, delaying or deactivating the operation of any component or the function of the emission control system such that the effectiveness of the emission control system is reduced under conditions encountered during normal operation, unless the use of such a device is substantially included in the applied emission certification test procedures.

(5) *Diesel engine* means any reciprocating internal-combustion engine operating on liquid or dual fuel, to which regulation 13 of Annex VI, as amended, applies, including booster/compound systems if applicable.

(6) *Emission* means any release of substances, subject to control by this Annex, from ships into the atmosphere or sea.

(7) *Emission Control Area* means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from SOx, NOx, and particulate matter and its attendant adverse impacts on human health and the environment. Emission Control Areas shall include those listed in, or designated under, regulations 13 and 14 of this Annex.

(8) *Fuel oil* means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including distillate and residual fuels.

(9) *Gross tonnage* means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex I to the International Convention on Tonnage Measurements of Ships, 1969 or any successor Convention.

(10) *Installations*, in relation to regulation 12 of this Annex, means the installation of systems, equipment, including portable fire extinguishing units, insulation, or other material on a ship, but excludes repair or recharge of previously installed systems, equipment, insulation, or other material, or recharge of portable fire extinguishing units.

(11) *Installed* means a marine engine that is or is intended to be installed on a ship, including a portable auxiliary marine engine, only if its fuelling, cooling, or exhaust system is an integral part of the ship. A fuelling system is considered integral to the ship only if it is permanently affixed to the ship.

(12) *Irrational emission control strategy* means any strategy or measure that, when the ship is operated under normal conditions of use, reduces the effectiveness of the emission control system to a level below that expected on the applicable emission test procedures.

(13) *NOx Technical Code* means the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines, as amended.

(14) *Ozone depleting substances* means controlled substances defined in paragraph 4 of article 1 of the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, listed in Annexes A, B, C or E to the said Protocol in force at the time of application or interpretation of this Annex.

"Ozone depleting substances" that may be found on board ship include, but are not limited to:

Halon 1211 Bromochlorodifluoromethane.

Halon 1301 Bromotrifluoromethane

Halon 2402 1, 2-Dibromo -1, 1, 2, 2-tetraflouroethane (also known as Halon 114B2)

CFC-11 Trichlorofluoromethane

CFC-12 Dichlorodiflouromethane

CFC-113 1, 1, 2 - Trichloro -1, 2, 2-tetrafluoroethane

CFC-114 1, 2 - Dichloro -1, 1, 2, 2 - tetrafluoroethane

CFC-115 Chloropentafluoroethane

(15) *Sludge oil* means sludge from the fuel or lubricating oil separators, waste lubricating oil from main or auxiliary machinery, or waste oil from bilge water separators, oil filtering equipment or drip trays.

(16) *Shipboard incineration* means the incineration of wastes or other matter on board a ship, if such wastes or other matter were generated during the normal operation of that ship.

(17) *Shipboard incinerator* means a shipboard facility designed for the primary purpose of incineration.

(18) *Ships constructed* means ships the keels of which are laid or which are at a similar stage of construction.

(19) *Tanker* means an oil tanker as defined in regulation 1(5) of Annex I or a chemical tanker as defined in regulation 1(16.1) of Annex II of the present Convention.

(20) *Annex VI, as amended* means the 2008 amendments to the annex to the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

Regulation 3
Exceptions and Exemptions

Regulations of this Annex shall not apply to:

General

(1) (a) any emission necessary for the purpose of securing the safety of a ship or saving life at sea; or

(b) any emission resulting from damage to a ship or its equipment:

(i) provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the emission for the purpose of preventing or minimizing the emission; and

(ii) except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result.

Trials for Ship Emission Reduction and Control Technology Research

(2) An Administration may, in co-operation with other Administrations as appropriate, issue an exemption from specific provisions of this Annex for a ship to conduct trials for the development of ship emission reduction and control technologies. Such an exemption shall only be provided if the applications of specific provisions of the Annex or the NOx Technical Code may impede research into the development of such technologies. A permit for such an exemption shall:

(a) only be provided to the minimum number of ships necessary to effectively test ship emission reduction and control technologies; and

(b) not exceed [18 months][5 years] in duration, after which a permitting Administration or Administrations shall analyse whether the exemption for a ship should be renewed in order to achieve effective results from the trial of a ship emission reduction and control technology.

Emission from Petroleum Activity

(3) (a) Emissions directly arising from the exploration, exploitation and associated offshore processing of sub-sea-bed mineral resources are, consistent with article 2(3)(b)(ii) of the present Convention, exempt from the provisions of this Annex. Such emissions include the following:

(i) emissions resulting from the incineration of substances that are solely and directly the result of exploration, exploitation and associated offshore processing of sub-sea-bed mineral resources, including but not limited to the flaring of hydrocarbons and the burning of cuttings, muds, and/or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;

(ii) the release of gases and volatile compounds entrained in drilling fluids and cuttings;

(iii) emissions associated solely and directly with the treatment, handling, or storage of sub-sea-bed minerals; and

(iv) emissions from diesel engines that are solely dedicated to the exploration, exploitation and associated offshore processing of sub-sea-bed mineral resources.

(b) The requirements of regulation 18 of this Annex shall not apply to the use of hydrocarbons which are produced and subsequently used on site as fuel, when approved by the Administration.

Regulation 4
Equivalents

(1) The Administration may allow any fitting material, appliance or apparatus to be fitted in a ship or other procedures or compliance methods used as an alternative to that required by this Annex if such fitting, material, appliance or apparatus or other procedures or compliance methods are at least as effective as that required by this Annex.

(2) The Administration which allows a fitting material, appliance or apparatus or other procedures or compliance methods used as an alternative to that required by this Annex shall communicate to the Organization for circulation to the Parties particulars thereof, for their information and appropriate action, if any.

CHAPTER II
SURVEY, CERTIFICATION AND MEANS OF CONTROL

Regulation 5
Surveys

(1) Every ship of 400 gross tonnage and above and every fixed and floating drilling rig and other platforms shall be subject to the surveys specified below:

(a) An initial survey before the ship is put into service or before the certificate required under regulation 6 of this Annex is issued for the first time. This survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of this Annex;

(b) A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 9(2), 9(5), 9(6) or 9(7) of this Annex is applicable. The renewal survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with applicable requirements of this Annex;

(c) An intermediate survey within three months before or after the second anniversary date or within three months before or after the third anniversary date of the certificate which shall take the place of one of the annual surveys specified in paragraph (1)(d) of this regulation. The intermediate survey shall be such as to ensure that the equipment and arrangements fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the certificate issued under regulations 6 or 7 of this Annex;

(d) An annual survey within three months before or after each anniversary date of the certificate, including a general inspection of the equipment, systems, fittings, arrangements and material referred to in paragraph (1)(a) of this regulation to ensure that they have been maintained in accordance with paragraph (4) of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the certificate issued under regulations 6 or 7 of this Annex; and

(e) An additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in paragraph (4) of this regulation, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.

(2) In the case of ships of less than 400 gross tonnage, the Administration may establish appropriate measures in order to ensure that the applicable provisions of this Annex are complied with.

(3) (a) Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply with the guidelines adopted by the Organization;*

(b) The survey of engines and equipment for compliance with regulation 13 of this Annex shall be conducted in accordance with the NOx Technical Code;

(c) When a nominated surveyor or recognized organization determines that the condition of the equipment does not correspond substantially with the particulars of the certificate, they shall ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate should be withdrawn by the Administration. If the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation; and

(d) In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.

(4) (a) The equipment shall be maintained to conform with the provisions of this Annex and no changes shall be made in the equipment, systems, fittings, arrangements, or material covered by the survey, without the express approval of the Administration. The direct replacement of such equipment and fittings with equipment and fittings that conform with the provisions of this Annex is permitted; and

(b) Whenever an accident occurs to a ship or a defect is discovered, which substantially affects the efficiency or completeness of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, a nominated surveyor, or recognized organization responsible for issuing the relevant certificate.

Regulation 6
Issue of endorsement of a Certificate

(1) An International Air Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 5 of this Annex, to:

* Refer to the Guidelines for the authorization of organizations acting on behalf of the Administration, adopted by the Organization by resolution A.739(18), and the Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration, adopted by the Organization by resolution A.789(19).

(a) any ship of 400 gross tonnage and above engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties; and

(b) platforms and drilling rigs engaged in voyages to waters under the sovereignty or jurisdiction of other Parties.

(2) A ship constructed before the date of entry into force of Annex VI for such ship's Administration shall be issued with an International Air Pollution Prevention Certificate in accordance with paragraph (1) of this regulation no later than the first scheduled dry-docking after the date of such entry into force, but in no case later than 3 years after this date.

(3) Such certificate shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the certificate.

Regulation 7
Issue of a Certificate by another Party

(1) A Party may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issuance of an International Air Pollution Prevention Certificate to the ship, and where appropriate, endorse or authorize the endorsement of that certificate on the ship, in accordance with this Annex.

(2) A copy of the certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.

(3) A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as a certificate issued under regulation 5 of this Annex.

(4) No International Air Pollution Prevention Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 8
Form of Certificate

The International Air Pollution Prevention Certificate shall be drawn up in a form corresponding to the model given in appendix I to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 9
Duration and Validity of Certificate

(1) An International Air Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years.

(2) (a) Notwithstanding the requirements of paragraph (1) of this regulation, when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate;

(b) When the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate; and

(c) When the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.

(3) If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph (1) of this regulation, provided that the surveys referred to in regulations 5(1)(c) and 5(1)(d) of this Annex applicable when a certificate is issued for a period of five years are carried out as appropriate.

(4) If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.

(5) If a ship, at the time when a certificate expires, is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

(6) A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

(7) In special circumstances, as determined by the Administration, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraph (2)(b), (5) or (6) of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

(8) If an annual or intermediate survey is completed before the period specified in regulation 5 of this Annex, then:

(a) the anniversary date shown on the certificate shall be amended by endorsement to a date which shall not be more than three months later than the date on which the survey was completed;

(b) the subsequent annual or intermediate survey required by regulation 5 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date; and

(c) the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 5 of this Annex are not exceeded.

(9) A certificate issued under regulations 6 or 7 of this Annex shall cease to be valid in any of the following cases:

(a) if the relevant surveys are not completed within the periods specified under regulation 5(1) of this Annex;

(b) if the certificate is not endorsed in accordance with regulation 5(1)(c) or 5(1)(d) of this Annex; and

(c) upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulation 5(4)(a) of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Regulation 10
Port State Control on Operational Requirements

(1) A ship, when in a port or an offshore terminal under the jurisdiction of another Party, is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of air pollution from ships.

(2) In the circumstances given in paragraph (1) of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.

(3) Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.

(4) Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

Regulation 11
Detection of Violations and Enforcement

(1) Parties shall co-operate in the detection of violations and the enforcement of the provisions of this Annex, using all appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence.

(2) A ship to which this Annex applies may, in any port or offshore terminal of a Party, be subject to inspection by officers appointed or authorized by that Party for the purpose of verifying whether the ship has emitted any of the substances covered by this Annex in violation of the provision of this Annex. If an inspection indicates a violation of this Annex, a report shall be forwarded to the Administration for any appropriate action.

(3) Any Party shall furnish to the Administration evidence, if any, that the ship has emitted any of the substances covered by this Annex in violation of the provisions of this Annex. If it is practicable to do so, the competent authority of the former Party shall notify the master of the ship of the alleged violation.

(4) Upon receiving such evidence, the Administration so informed shall investigate the matter, and may request the other Party to furnish further or better evidence of the alleged contravention. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken in accordance with its law as soon as possible. The Administration shall promptly inform the Party which has reported the alleged violation, as well as the Organization, of the action taken.

(5) A Party may also inspect a ship to which this Annex applies when it enters the ports or offshore terminals under its jurisdiction, if a request for an investigation is received from any Party together with sufficient evidence that the ship has emitted any of the substances covered by the Annex in any place in violation of this Annex. The report of such investigation shall be sent to the Party requesting it and to the Administration so that the appropriate action may be taken under the present Convention.

(6) The international law concerning the prevention, reduction, and control of pollution of the marine environment from ships, including that law relating to enforcement and safeguards, in force at the time of application or interpretation of this Annex, applies, *mutatis mutandis*, to the rules and standards set forth in this Annex.

CHAPTER III
REQUIREMENTS FOR CONTROL OF EMISSIONS FROM SHIPS

Regulation 12
Ozone Depleting Substances

(1) This regulation does not apply to permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing Ozone Depleting Substances.

(2) Subject to the provisions of regulation 3, any deliberate emissions of ozone depleting substances shall be prohibited. Deliberate emissions include emissions occurring in the course of maintaining, servicing repairing or disposing of systems or equipment, except that deliberate emissions do not include minimal releases associated with the recapture or recycling of an ozone depleting substance. Emissions arising from leaks of an ozone depleting substance, whether or not the leaks are deliberate, may be regulated by Parties.

(3) (a) Installations which contain ozone depleting substances shall be prohibited:

(i) on ships constructed on or after 19 May 2005; or

(ii) in the case of ships constructed before 19 May 2005, which have a contractual delivery date of the equipment to the ship on or after 19 May 2005 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 19 May 2005.

(b) Installations which contain hydro-chlorofluorocarbons shall be prohibited:

(i) on ships constructed on or after 1 January 2020; or

(ii) in the case of ships constructed before 1 January 2020, which have a contractual delivery date of the equipment to the ship on or after 1 January 2020 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 1 January 2020.

(4) The substances referred to in this regulation, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from ships.

(5) Subject to this regulation, each ship shall maintain a list of equipment containing ozone depleting substances.[1]

(6) Every ship of 400 gross tonnage and above which has rechargeable systems that contain Ozone Depleting Substances shall maintain an Ozone Depleting Substances Record Book. This Record Book may form part of an existing log-book.

[1] *See* Annex VI, as amended, Appendix I, Supplement to International Air Pollution Prevention Certificate (IAPP Certificate), section 2.1.

(7) Entries in the Ozone Depleting Substances Record Book shall be recorded in terms of mass (kg) of substance and shall be completed without delay on each occasion, in respect of the following:

(a) recharge, full or partial, of equipment containing ozone depleting substances;

(b) repair or maintenance of equipment containing ozone depleting substances;

(c) discharge of ozone depleting substances to the atmosphere:

(i) deliberate; and

(ii) non-deliberate;

(d) discharge of ozone depleting substances to land-based reception facilities; and

(e) supply of ozone depleting substances to the ship.

Regulation 13
Nitrogen Oxides (NOx)

Application

(1) (a) This regulation shall apply to:

(i) each diesel engine with a power output of more than 130 kW;

[(ii) Option 1: *each diesel engine [with a power output of more than 130 kW] with a displacement per cylinder at or above [[30][60] litres]* [which is installed on a ship constructed on or after 1 January 1990 and prior to 1 January 2000]]; and

[(ii) Option 2: *each diesel engine which is subject to paragraph 7 of this regulation*]; and

(ii[i]) each diesel engine with a power output of more than 130 kW which undergoes a major conversion except when demonstrated to the satisfaction of the Administration that the engine is an identical replacement to the engine which it is replacing and is otherwise not covered under subparagraph (i) of paragraph 1(a) of this regulation.

(b) This regulation does not apply to:

(i) a diesel engine intended to be used solely for emergencies, or solely to power any device or equipment intended to be used solely for emergencies on the ship on which it is installed, or a diesel engine installed in lifeboats intended to be used solely for emergencies; and

(ii) a diesel engine installed on a ship solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such an engine is subject to an alternative NOx control measure established by the Administration.

(c) Notwithstanding the provisions of (a) of this paragraph, the Administration may provide an exclusion from the application of this regulation for any diesel engine which is installed on a ship constructed, or for any diesel engine which undergoes a major conversion, before 19 May 2005, provided that the ship on which the engine is installed is solely engaged in voyages to ports or offshore terminals within the State the flag of which the ship is entitled to fly.

(2) (a) For the purpose of this regulation, "major conversion" means a modification of a diesel engine that has not already been certified to the standards set forth in paragraphs 3, 4, or 6 of this regulation where:

(i) the engine is replaced by a diesel engine or an additional engine is installed, or

(ii) any substantial modification, as defined in the NO_x Technical Code, is made to the engine, or

(iii) the maximum continuous rating of the engine is increased by more than 10% compared to the maximum continuous rating of the original certification of the engine.

(b) For a major conversion involving the replacement of an existing engine with a non-identical engine or the installation of an additional engine, the standards in this regulation in force at the time of the replacement or addition of an engine shall apply. On or after 1 January 2016, in the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5 of this regulation (Tier III), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II). Guidelines are to be developed by the Organization to set forth the criteria of when it is not possible for a replacement engine to meet the standards in paragraph 5 of this regulation.

(c) For an engine referred to in subparagraph (ii) or (iii) of this paragraph 2(a), then the engine shall meet the standards that are:

(i) for ships constructed prior to 1 January 2000, the standards set forth in paragraph 3 of this regulation shall apply; and

(ii) for ships constructed on or after 1 January 2000, the standards in force at the time the ship is constructed shall apply.

Tier I ***Note: This is the existing 17 g/kW standard in Annex VI.***

(3) Subject to regulation 3 of this Annex, the operation of a diesel engine which is installed on a ship constructed on or after 1 January 2000 and prior to 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the

engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(a) 17.0g/kWh when n is less than 130 rpm;

(b) $45.0^{*}n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2000 rpm; or

(c) 9.8 g/kWh when n is 2000 rpm or more.

Tier II[2]

(4) Subject to regulation 3 of this Annex, the operation of a diesel engine which is installed on a ship constructed on or after 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(a) 14.36 g/kWh when n is less than 130 rpm;

(b) $44^{*}n(-0.23)$ g/kWh when n is 130 or more but less than 2000 rpm; or

(c) 7.66 g/kWh when n is 2000 rpm or more.

Tier III

(5) (a) Subject to regulation 3 of this Annex, the operation of a diesel engine with a power output of more than 600 kW which is installed on a ship constructed on or after 1 January 2016:

(i) notwithstanding subparagraph (a)(i) of paragraph 1 of this regulation, paragraphs 5 and 6 of this regulation shall only apply to each diesel engine with a power output of more than 600 kW; however, such paragraphs may, at the discretion of a Party, apply to diesel engines with a power output of more than 130 kW;

(ii) is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(a) 3.40 g/kWh when n is less than 130 rpm;

(b) $9^{*}n(-0.2)$ g/kWh when n is 130 or more but less than 2000 rpm; and

(c) 1.96 g/kWh when n is 2000 rpm or more; and

[2] Tier II is for ships constructed on or after 1 January 2011 to prior to 1 January 20[15][16].

(iii) is subject to the standard[s] set forth in subparagraph (i) of this paragraph when the ship is operating [in an Emission Control Area set forth in, or designated under, paragraph 6 of this regulation].

(b) For a diesel engine which is installed on a ship constructed on or after 1 January 2016, the standards set forth in paragraph 4 of this regulation shall apply when the ship is operating outside of such a designated Emission Control Area.

(6) For the purpose of this regulation, Emission Control Areas shall include:

(a) …; and

(b) any other sea area, including port areas, designated by the Organization in accordance with the criteria and procedures set forth in Appendix III to this Annex.

Engines Installed on a Ship Constructed Prior to 1 January 2000[3]

[(7) Option 1:

(a) Subject to regulation 3 of this Annex, the operation of a diesel engine [with per cylinder displacement at or above [30/60/90 litres] [with a power output of more than 5000 kW], which is installed on a ship constructed on or after 1 January 1990 and prior to 1 January 2000 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is:

(i) 17.0g/kWh when n is less than 130 rpm;

(ii) $45.0^{*}n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2000 rpm; and

(iii) 9.8 g/kWh when n is 2000 rpm or more];

where n = rated engine speed (crankshaft revolutions per minute);

(b) An engine to which subparagraph (a) of this paragraph applies shall comply with the standard[s] set forth in that subparagraph not later than the first intermediate or renewal survey, whichever occurs later[, beginning on 1 January 2010]; and

(c) If an engine cannot comply with the standards set forth in paragraph (a) of this paragraph, a port State may:

(i) require a ship to use distillate fuel[3]; or

[3] If this Option is accepted, consideration should be given to what grade of distillate fuel should be required. Area issues should also be considered.

(ii) subject to the provisions of international law, deny entry to a ship into its ports or offshore terminals under its jurisdiction, except when it is necessary for the purpose of securing the safety of a ship or saving life at sea. In such cases, that Party shall communicate to the Organization for circulation to the Parties particulars thereof for their information.]

[(7) Option 2[4]

(a) A diesel engine [with per cylinder displacement at or above [30/60/90] litres] [with a power output of more than 5000 kW] installed on a ship constructed on or after 1 January 1990 and prior to 1 January 2000 shall comply with the NOx limits set forth in subparagraph (f) of this paragraph if a certified emission upgrade kit is available for that engine.

(b) An emission upgrade kit will be considered to be available [12] months after [an Administration] [the Administration of the country of the engine designer][an Administration with is a Annex VI party][the flag Administration] deposits to the Organization a notification (including a list of the models to which the emission upgrade kit applies) that it has certified such a kit as complying with the limits in (f) and the following conditions have been satisfied:

(i) The engine designer attests that the emission upgrade kit will not have an adverse impact on engine rating [GT 1%] , fuel consumption [GT 2%], durability and reliability [as evidenced by a circular letter from the engine designer] and the efficiency of the engine (more than [XX%]); and

(ii) The manufacture of the emission upgrade kit attests that the price of the kit, including installation and incremental changes in engine operation costs, does not exceed [ABSOLUTE VALUE/VALUE per ton of NOx reduced].

(c) If an owner can demonstrate to the satisfaction of the flag Administration of the ship onto which the kit is to be installed that an emission upgrade kit will not be available through normal business practices at the time the kit must be installed then the emission upgrade kit will, notwithstanding (b), be considered to be not available.

(d) An engine to which this paragraph applies shall comply with the standards set forth in (f) no later than the first intermediate or renewal survey (whichever occurs later) required in regulation 5 after an emission upgrade kit becomes available for that engine pursuant to subparagraphs (b) and (c). A shipowner may request an

[4] Availability of emission upgrade kits will depend on the market. Therefore, it may be necessary to create incentives for ship owners to request manufacturers to supply such kits. Incentives that may help the introduction and certification of emission upgrade kits; these may include fairway dues, port fee structures, or requirements to use alternative control technologies or operational requirements while operating within specified areas, including speed reductions, use of distillate fuels.

In lieu of a Tier 1 NOx limits, consideration should be given to an approach that would require emission upgrade kits to comply with either Tier 1 NOx limits or a 20 percent reduction in measured NOx emissions, [whichever is larger].

extension of this period to the first scheduled dry-docking after the kit becomes available in those cases where the kit manufacturer specifies that installation of the emission upgrade kit requires taking the engine out of service.

(e) The IAPP for a ship with an engine for which an emission upgrade kit is available will be revised to indicate that the engine is subject to the requirements of this regulation.

(f) Subject to regulation 3 of this Annex and for those engines to which this paragraph applies, the operation of an existing engine is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within or does not exceed the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(i) 17.0 g/kW when n is less than 130 rpm;

(ii) 45.0^{*}n-(0.2) g/kWh when n is 130 or more but less than 2000 rpm; or

(iii) 9.8 g/kWh when n is 2000 rpm or more].

Alternatives

(8) Notwithstanding paragraphs 3, 4, 5 and 7 of this regulation, the operation of a diesel engine is permitted when:

(i) an exhaust gas cleaning system, approved by the Administration in accordance with the NOx Technical Code, is applied to the engine to reduce onboard NOx emissions at least to the limits specified in paragraphs 3, 4, 5, and 7 of this regulation; or

(ii) any other equivalent method, approved by the Administration taking into account relevant guidelines to be developed by the Organization, is applied to reduce onboard NOx emissions at least to the limit specified in paragraphs 3, 4, 5, and 7 of this regulation.

Certification

(9) The certification, testing, and measurement procedures for the standards set forth in this regulation, are set forth in the NOx Technical Code.

(10) The procedures for determining NOx emissions set out in the NOx Technical Code are intended to be representative of the normal operation of the engine. Defeat devices and irrational emission control strategies undermine this intention and shall not be allowed. This regulation shall not prevent the use of auxiliary control devices that are used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure or that are used to facilitate the starting of the engine.

Review

(11) No later than [4] years before the standards in paragraph 5 of this regulation enter into force, the Organization shall review the status of the technological developments to implement those standards and shall take any action it determines necessary.

Regulation 14
Sulphur Oxides (SOx) and Particulate Matter (PM)

Option 1: Global Approach

Regulation 14
Sulphur Oxides (SOx) and Particulate Matter (PM)

General requirements

(1) The sulphur content of any fuel oil used on board ships shall not exceed:

(i) 4.50% m/m;

(ii) 1.00% m/m on or after 1 January 201[2]; and

(iii) 0.50% m/m on or after 1 January 201[5].

(2) The worldwide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account guidelines developed by the Organization.[5]

Requirements within Emission Control Areas

(3) For the purpose of this regulation, Emission Control Areas shall exist until 1 January 201[2] for the reduction of SOx and PM emissions and shall include:

(a) the Baltic Sea area as defined in regulation 10(1)(b) of Annex I, the North Sea as defined in regulation 5(1)(f) of Annex V; and

(b) any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.

(4) Prior to 1 January 201[2], while ships are within an Emission Control Area, at least one of the following conditions shall be fulfilled:

(a) the sulphur content of fuel oil used on board ships in a Emission Control Area does not exceed 1.50% m/m;

(b) an exhaust gas cleaning system, approved by the Administration taking into account guidelines to be developed by the Organization,[6] is applied to reduce the

[5] MEPC.82(43), "Guidelines for Monitoring the World-wide Average Sulphur Content of Residual Oils Supplied for Use On Board Ships".
[6] MEPC.xx(xx), "Guidelines for Exhaust Gas Cleaning Systems".

total emission of SOx and PM from ships, including both auxiliary and main propulsion engines, to 6.0 g SOx/kWh or less calculated as the total weight of sulphur dioxide emission; or

(c) any other technological method that is verifiable and enforceable to limit SOx and PM emissions to a level equivalent to that described in subparagraphs (a) or (b) is applied. These methods shall be approved by the Administration taking into account guidelines to be developed by the Organization;

(d) waste streams from the use of such equipment pursuant to subparagraphs (b) and (c) of this paragraph (4) shall not be discharged into ports, harbours and estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems of such ports, harbours and estuaries, based upon criteria communicated by the authorities of the port State to the Organization. The Organization shall circulate the criteria to all Parties.

(5) The sulphur content of fuel oil referred to in paragraphs (1) and (4)(a) of this regulation shall be documented by the supplier as required by regulation 18 of this Annex.

(6) Those ships using separate fuel oils to comply with paragraph (4)(a) of this regulation shall carry a written procedure showing how the fuel change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuels exceeding the 1.50% m/m sulphur content specified in paragraph (a) of paragraph 4 prior to entry into an Emission Control Area. The volume of low sulphur fuel oils (less than or equal to 1.50% sulphur content) in each tank as well as the date, time, and position of the ship when any fuel-change-over operation is completed prior to the entry into a Emission Control Area or commenced after exit from such an area, shall be recorded in such log-book as may be prescribed by the Administration.

(7) During the first twelve months immediately following amendment to the present Protocol designating a specific Emission Control Area under paragraph (3)(b) of this regulation, ships operating in an Emission Control Area designated under paragraph (3)(b) of this regulation are exempted from the requirements in paragraphs (4) and (6) of this regulation and from the requirements of paragraph (5) of this regulation insofar as they relate to paragraph (4)(a) of this regulation.

[(8) A port State that establishes additional measures to address air emissions from ships must notify the Organization at least 6 months prior to the effective date of such requirements.]

Option 2: Change to Emission Control Area requirement

Regulation 14
Sulphur Oxides (SOx) and Particulate Matter (PM)

General requirements

(1) The sulphur content of any fuel oil used on board ships shall not exceed 4.50% m/m.

(2) The worldwide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account guidelines developed by the Organization.[7]

Requirements within Emission Control Areas

(3) For the purpose of this regulation, Emission Control Areas shall include:

(a) the Baltic Sea area as defined in regulation 10(1)(b) of Annex I, the North Sea as defined in regulation 5(1)(f) of Annex V; and

(b) any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.

(4) While ships are within Emission Control Areas, at least one of the following conditions shall be fulfilled:

(a) the sulphur content of fuel oil used on board ships in an Emission Control Area shall not exceed the following limitations:

(i) 1.50% m/m; and

(ii) 0.10% m/m on and after 1 January 201[2];

(b) an exhaust gas cleaning system, approved by the Administration taking into account guidelines to be developed by the Organization,[8] is applied to reduce the total emission of SOx and PM from ships, including both auxiliary and main propulsion engines, to the following levels or less:

(i) 6.0 g SOx/kWh or less calculated as the total weight of sulphur dioxide emission; and

(ii) 0.4 g SOx/kWh or less calculated as the total weight of sulphur dioxide emissions on and after 1 January 201[2]; or

(c) any other technological method that is verifiable and enforceable to limit SOx and PM emissions to a level equivalent to that described in subparagraphs (a) or (b) is applied. These methods shall be approved by the Administration taking into account guidelines to be developed by the Organization; and

(d) waste streams from the use of such equipment pursuant to subparagraphs (b) and (c) of this paragraph 4 shall not be discharged into ports, harbours and estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems of such ports, harbours and estuaries, based upon criteria communicated by the authorities of the port State to the Organization. The Organization shall circulate the criteria to all Parties.

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7 MEPC.82(43), "Guidelines for Monitoring the World-wide Average Sulphur Content of Residual Oils Supplied for Use On Board Ships".

8 MEPC.xx(xx), "Guidelines for Exhaust Gas Cleaning Systems".

(5) The sulphur content of fuel oil referred to in paragraph (1) and paragraph (4)(a) of this regulation shall be documented by the supplier as required by regulation 18 of this Annex.

(6) Those ships using separate fuel oils to comply with paragraph (4)(a) of this regulation shall carry a written procedure showing how the fuel change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuels exceeding the applicable sulphur content specified in subparagraph (a) of paragraph 4 of this regulation prior to entry into an Emission Control Area. The volume of low sulphur fuel oils in each tank as well as the date, time, and position of the ship when any fuel-change-over operation is completed prior to the entry into an Emission Control Area or commenced after exit from such an area, shall be recorded in such log-book as prescribed by the Administration.

(7) During the first twelve months immediately following amendment to the present Protocol designating a specific Emission Control Area under paragraph (3)(b) of this regulation, ships operating in an Emission Control Area designated under paragraph (3)(b) of this regulation are exempted from the requirements in paragraphs (4) and (6) of this regulation and from the requirements of paragraph (5) of this regulation insofar as they relate to paragraph (4)(a) of this regulation.

[(8) A port State that establishes additional measures to address air emissions from ships must notify the Organization at least 6 months prior to the effective date of such requirements.]

Option 3: Emission Control Area/Micro-Emission Control Areas/Global Cap

Regulation 14
Sulphur Oxides (SOx) and Particulate Matter (PM)

General requirements

(1) The sulphur content of any fuel oil used on board ships shall not exceed:

(i) 4.50% m/m; and

(ii) 3.00% m/m on or after 1 January 201[2].

(2) The worldwide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account guidelines developed by the Organization.[9]

Requirements within Emission Control Areas

(3) For the purpose of this regulation, Emission Control Areas shall include:

(a) the Baltic Sea area as defined in regulation 10(1)(b) of Annex I, the North Sea as defined in regulation 5(1)(f) of Annex V; and

[9] MEPC.82(43), "Guidelines for Monitoring the World-wide Average Sulphur Content of Residual Oils Supplied for Use On Board Ships".

(b) any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.

(4) While ships are within an Emission Control Area, at least one of the following conditions shall be fulfilled:

(a) the sulphur content of fuel oil used on board ships in a Emission Control Area shall not exceed:

(i) 1.50% m/m;

(ii) 1.00% m/m on and after 1 January 201[0]; and

(iii) 0.50% m/m on and after 1 January 201[5];

(b) an exhaust gas cleaning system, approved by the Administration taking into account guidelines to be developed by the Organization,[10] is applied to reduce the total emission of SOx and PM from ships, including both auxiliary and main propulsion engines, to the following levels or less:

(i) 6.0 g SOx/kWh or less calculated as the total weight of sulphur dioxide emission;

(ii) 4.0 g SOx/kWh or less calculated as the total weight of sulphur dioxide emissions on and after 1 January 201[0]; and

(iii) 2.0 g SOx/kWh or less calculated as the total weight of sulphur dioxide emissions on and after 1 January 201[5]; or

(c) any other technological method that is verifiable and enforceable to limit SOx and PM emissions to a level equivalent to that described in subparagraphs (a) and (b) is applied. These methods shall be approved by the Administration taking into account guidelines to be developed by the Organization; and

(d) waste streams from the use of such equipment pursuant to subparagraphs (b) and (c) of this paragraph 4 shall not be discharged into ports, harbours and estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems of such ports, harbours and estuaries, based upon criteria communicated by the authorities of the port State to the Organization. The Organization shall circulate the criteria to all Parties.

Requirements within Micro-Emission Control Areas

(5) For the purpose of this regulation, Micro-Emission Control Areas shall be not more than [24] nautical miles from shore and shall include any sea area, including port areas,

[10] MEPC.xx(xx), "Guidelines for Exhaust Gas Cleaning Systems".

[designated] by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.[11]

(6) While ships are within a Micro-Emission Control Area, at least one of the following conditions shall be fulfilled:

(a) the sulphur content of fuel oil used on board ships in a Micro-Emission Control Area shall not exceed 0.10 m/m;

(b) an exhaust gas cleaning system, approved by the Administration taking into account guidelines to be developed by the Organization,[12] is applied to reduce the total emission of SOx and PM from ships, including both auxiliary and main propulsion engines, to 0.4 g SOx/kWh or less calculated as the total weight of sulphur dioxide emissions; or

(c) any other technological method that is verifiable and enforceable to limit SOx and PM emissions to a level equivalent to that described in subparagraphs (a) and (b) is applied. These methods shall be approved by the Administration taking into account guidelines to be developed by the Organization; and

(d) waste streams from the use of such equipment pursuant to subparagraphs (b) and (c) of this paragraph 4 shall not be discharged into ports, harbours and estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems of such ports, harbours and estuaries, based upon criteria communicated by the authorities of the port State to the Organization. The Organization shall circulate the criteria to all Parties.

(7) The sulphur content of fuel oil referred to in paragraph (1) and paragraphs (4)(a) and 6(a) of this regulation shall be documented by the supplier as required by regulation 18 of this Annex.

(8) Those ships using separate fuel oils to comply with subparagraphs (4)(a) and 6(a) of this regulation shall carry a written procedure showing how the fuel change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuels exceeding the applicable sulphur content specified in subparagraph (a) of paragraphs 4 and 6 of this regulation prior to entry into an Emission Control Area or Micro-Emission Control Area. The volume of low sulphur fuel oils in each tank as well as the date, time, and position of the ship when any fuel-change-over operation is completed prior to the entry into an Emission Control Area or Micro-Emission Control Area or commenced after exit from such an area, shall be recorded in such log-book as prescribed by the Administration.

(9) During the first twelve months immediately following amendment to the present Protocol designating a specific Emission Control Area or Micro-Emission Control Area under paragraph (3)(b) or 5 of this regulation, ships operating in an Emission Control Area or Micro-Emission Control Area designated under paragraph (3)(b) or 5 of this regulation are

[11] Relaxation of the criteria and procedures in Appendix III (or a new Appendix developed) needs to be further considered if this Option is pursued.

[12] MEPC.xx(xx), "Guidelines for Exhaust Gas Cleaning Systems".

exempted from the requirements in paragraphs (4), (6) and (8) of this regulation and from the requirements of paragraph (7) of this regulation insofar as they relate to paragraphs (4)(a) and (6)(a) of this regulation.

[(10) A port State that establishes additional measures to address air emissions from ships must notify the Organization at least 6 months prior to the effective date of such requirements.][13]

Definition

"Micro-Emission Control Area" means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution and its attendant adverse impacts on human health and the environment. Micro-Emission Control Areas shall include those [designated] under, regulation 14(5) of this Annex.

Regulation 15
Volatile Organic Compounds (VOCs)

(1) If the emissions of VOCs from a tanker are to be regulated in a port or ports or a terminal or terminals under the jurisdiction of a Party, they shall be regulated in accordance with the provisions of this regulation.

(2) A Party regulating tankers for VOC emissions shall submit a notification to the Organization. This notification shall include information on the size of tankers to be controlled, the cargoes requiring vapour emission control systems, and the effective date of such control. The notification shall be submitted at least six months before the effective date.

(3) A Party which designates ports or terminals at which VOCs emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by that Party taking into account the safety standards for such systems developed by the Organization,[14] are provided in any designated port and terminal and are operated safely and in a manner so as to avoid undue delay to a ship.

(4) The Organization shall circulate a list of the ports and terminals designated by Parties to other Parties and Member States of the Organization for their information.

(5) A tanker to which paragraph 1 of this regulation applies shall be provided with a vapour emission collection system approved by the Administration taking into account the safety standards for such systems developed by the Organization,[14] and shall use this system during the loading of relevant cargoes. A port or terminal which has installed vapour emission control systems in accordance with this regulation may accept tankers which are not fitted with vapour collection systems for a period of three years after the effective date identified in paragraph (2) of this regulation.

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[13] This paragraph may have a specific relationship to the Micro-Emission Control Areas concept and should be further considered.

[14] MSC/Circ.585.

(6) A tanker carrying crude oil shall have onboard and implement a VOC management plan approved by the Administration. Such a plan shall be prepared taking into account the guidelines[15] developed by the Organization. The plan shall be specific to each ship and shall at least:

(a) provide written procedures for minimizing VOC emissions during the loading, sea passage, and discharge of cargo;

(b) give consideration to the extra VOC generated by crude oil washing;

(c) identify a person responsible for implementing the plan; and

(d) for ships on international voyages, be written in the working language of the master and officers and, if the working language of the master and officers is not English, French, or Spanish, include a translation into one of these languages.

(7) This regulation shall also apply to gas carriers only if the type of loading and containment systems allow safe retention of non-methane VOCs on board or their safe return ashore.[16]

Regulation 16
Shipboard Incineration

(1) Except as provided in paragraph (4) of this regulation, shipboard incineration shall be allowed only in a shipboard incinerator.

(2) Shipboard incineration of the following substances shall be prohibited:

(a) residues of cargoes subject to Annexes I, II and III of the present Convention or related contaminated packing materials;

(b) polychlorinated biphenyls (PCBs);

(c) garbage, as defined by Annex V of the present Convention, containing more than traces of heavy metals;

(d) refined petroleum products containing halogen compounds;

(e) sewage sludge and sludge oil either of which are not generated on board the ship; and

(f) exhaust gas cleaning system residues.

[15] MEPC.[xx][(xx)], "Guidelines for the Development of a VOC Management Plan".
[16] MSC.30(61), "International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk", chapter 5.

(3) Shipboard incineration of polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerators for which IMO Type Approval Certificates* have been issued.

(4) Shipboard incineration of sewage sludge and sludge oil generated during normal operation of a ship may also take place in the main or auxiliary power plant or boilers, but in those cases, shall not take place inside ports, harbours and estuaries.

(5) Nothing in this regulation either:

(a) affects the prohibition in, or other requirements of, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended, and the 1996 Protocol thereto, or

(b) precludes the development, installation and operation of alternative design shipboard thermal waste treatment devices that meet or exceed the requirements of this regulation.

(6) (a) Except as provided in (b) of this paragraph, each incinerator on a ship constructed on or after 1 January 2000 or incinerator which is installed onboard a ship on or after 1 January 2000 shall meet the requirements contained in appendix IV to this Annex. Each incinerator subject to this shall be approved by the Administration taking into account the standard specifications for shipboard incinerators developed by the Organization**; and

(b) The Administration may allow exclusion from the application of (a) of this paragraph to any incinerator which is installed on board a ship before 19 May 2005, provided that the ship is solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly.

(7) Incinerators installed in accordance with the requirements of paragraph 6(a) of this regulation shall be provided with a manufacturer's operating manual which is to be retained with the unit and which shall specify how to operate the incinerator within the limits described in paragraph 2 of appendix IV of this Annex.

(8) Personnel responsible for the operation of an incinerator shall be trained to implement the guidance provided in the manufacturer's operating manual as required by paragraph (7) of this regulation.

(9) For incinerators installed in accordance with the requirements of paragraph 8(a) of this regulation the combustion chamber gas outlet temperature shall be monitored at all times the unit is in operation. Where that incinerator is of the continuous-feed type, waste shall not be fed into the unit when the combustion chamber gas outlet temperature is below 850°C. Where that incinerator is of the batch-loaded type, the unit shall be designed so that the combustion chamber gas outlet temperature shall reach 600°C within five minutes after start-up and will thereafter stabilize at a temperature not less than 850°C.

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* Type Certificates issued in accordance with resolution MEPC.59(33) or MEPC.76(40).

** Refer to resolution MEPC.76(40), Standard specification for shipboard incinerators.

Regulation 17
Reception Facilities

(1) Each Party undertakes to ensure the provision of facilities adequate to meet the:

(a) needs of ships using its repair ports for the reception of ozone depleting substances and equipment containing such substances when removed from ships;

(b) needs of ships using its ports, terminals or repair ports for the reception of exhaust gas cleaning residues from an approved exhaust gas cleaning system,

without causing undue delay to ships; and

(c) needs in ship breaking facilities for the reception of ozone depleting substances and equipment containing such substances when removed from ships.

(2) If exceptional circumstances exist in a particular port or terminal of a Party such that it is not equipped to handle the substances referred to in paragraph 1 of this regulation, then the Party shall inform the Organization of any such port or terminal so that this information may be circulated to all Parties for their information and any appropriate action.

(3) Each Party shall notify the Organization for transmission to the Members of the Organization of all cases where the facilities provided under this regulation are unavailable or alleged to be inadequate.

Regulation 18
Fuel Oil Quality

(1) Fuel oil for combustion purposes delivered to and used on board ships to which this Annex applies shall be fit for use and meet the following requirements:

(a) except as provided in (b):

(i) the fuel oil shall be blends of hydrocarbons derived from petroleum refining. This shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;

(ii) the fuel oil shall be free from inorganic acid;

(iii) the fuel oil shall not include any added substance or chemical waste which either:

(1) jeopardizes the safety of ships or adversely affects the performance of the machinery, or

(2) is harmful to personnel, or

(3) contributes overall to additional air pollution; and

(b) fuel oil for combustion purposes derived by methods other than petroleum refining shall not:

(i) exceed the sulphur content set forth in regulation 14 of this Annex;

(ii) cause an engine to exceed the NOx emission limits set forth in regulation 13(3)(a) of this Annex;

(iii) contain inorganic acid; and

(iv) (1) jeopardize the safety of ships or adversely affect the performance of the machinery, or

(2) be harmful to personnel, or

(3) contribute overall to additional air pollution.

(2) This regulation does not apply to coal in its solid form or nuclear fuels.

(3) For each ship subject to regulations 5 and 6 of this Annex, details of fuel oil for combustion purposes delivered to and used on board shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to this Annex.

(4) The bunker delivery note shall be kept on board the ship in such a place as to be readily available for inspection at all reasonable times. It shall be retained for a period of three years after the fuel oil has been delivered on board.

(5) (a) The competent authority of a Party may inspect the bunker delivery notes on board any ship to which this Annex applies while the ship is in its port or offshore terminal, may make a copy of each delivery note, and may require the master or person in charge of the ship to certify that each copy is a true copy of such bunker delivery note. The competent authority may also verify the contents of each note through consultations with the port where the note was issued; and

(b) The inspection of the bunker delivery notes and the taking of certified copies by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

(6) (a) The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account guidelines developed by the Organization.[17] The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than twelve months from the time of delivery.

[17] Refer to MEPC.96(47), "Guidelines for the sampling of fuel oil for determination of compliance with Annex VI of MARPOL 73/78".

(b) If the Administration requires the representative sample to be analysed, it shall be done in accordance with the verification procedure set forth in appendix VI to determine whether the fuel oil meets the requirements of this Annex.

(7) Parties undertake to ensure that appropriate authorities designated by them:

(a) maintain a register of local suppliers of fuel oil;

(b) require local suppliers to provide the bunker delivery note and sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex;

(c) require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;

(d) take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;

(e) inform the Administration of any ship receiving fuel oil found to be non-compliant with the requirements of regulation 14 or 18 of this Annex; and

(f) inform the Organization for transmission to Parties of all cases where fuel oil suppliers have failed to meet the requirements specified in regulation 14 or 18 of this Annex.

(8) In connection with port State inspections carried out by Parties, the Parties further undertake to:

(a) inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of noncompliant fuel oil, giving all relevant information; and

(b) ensure that remedial action as appropriate is taken to bring noncompliant fuel oil discovered into compliance.

(9) For every ship of 400 gross tonnage and above on scheduled services with frequent and regular port calls, an Administration may decide after application and consultation with affected States that compliance with paragraph (6) of this regulation may be documented in an alternative manner which gives similar certainty of compliance with regulations 14 and 18 of this Annex.

APPENDIX I

The first paragraph of Appendix I should read as follows:

Issued under the provisions of the Protocol of 1997 as amended, to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

The remaining text will be reviewed and updated, based on the final decision.

APPENDIX II

Appendix II will be reviewed and updated, based on the final decision.

APPENDIX III

CRITERIA AND PROCEDURES FOR DESIGNATION OF EMISSION CONTROL AREAS

1 OBJECTIVES

1.1 The purpose of this appendix is to provide the criteria and procedures to Parties for the formulation and submission of proposals for the designation of Emission Control Areas and to set forth the factors to be considered in the assessment of such proposals by the Organization.

1.2 Emissions of SOx, NOx, and particulate matter from ocean-going ships contribute to ambient concentrations of air pollution in cities and coastal areas around the world. Adverse public health and environmental effects associated with air pollution include premature mortality, cardiopulmonary disease, lung cancer, chronic respiratory ailments, acidification, and eutrophication.

1.3 An Emission Control Area should be considered for adoption by the Organization if supported by a demonstrated need to prevent, reduce, and control emissions of one or more of the following pollutants: SOx, NOx, and particulate matter (hereinafter emissions) from ships.

2 PROCESS FOR THE DESIGNATION OF EMISSION CONTROL AREAS

2.1 A proposal to the Organization for designation of an Emission Control Area may be submitted only by Parties. Where two or more Parties have a common interest in a particular area, they should formulate a co-ordinated proposal.

2.2 A proposal to designate a given area as an Emission Control Area should be submitted to the Organization in accordance with the rules and procedures established by the Organization.

3 CRITERIA FOR DESIGNATION OF AN EMISSION CONTROL AREA

3.1 The proposal shall include:

.1 a clear delineation of the proposed area of application, along with a reference chart on which the area is marked;

.2 a description of the human populations and environmental areas at risk from the impacts of ship emissions;

.3 an assessment that emissions from ships operating in the proposed area of application are contributing to ambient concentrations of air pollution or to adverse environmental impacts. Such assessment shall include a description of the impacts of the relevant emissions on human health and the environment, such as adverse impacts to terrestrial and aquatic ecosystems, areas of natural productivity, critical habitats, water quality, human health, and areas of cultural and scientific significance, if applicable. The sources of relevant data including methodologies used shall be identified;

.4 relevant information pertaining to the meteorological conditions in the proposed area of application to the human populations and environmental areas at risk, in particular prevailing wind patterns, or to topographical, geological, oceanographic, morphological, or other conditions that contribute to ambient concentrations of air pollution or adverse environmental impacts;

.5 the nature of the ship traffic in the proposed Emission Control Area, including the patterns and density of such traffic;

.6 a description of the control measures taken by the proposing Party or Parties addressing land-based sources of SOx, NOx and particulate matter emissions affecting the human populations and environmental areas at risk that are in place and operating concurrent with the consideration of measures to be adopted in relation to provisions of regulations 13 and 14 of Annex VI; and

.7 the relative costs of reducing emissions from ships when compared with land-based controls, and the economic impacts on shipping engaged in international trade.

3.2 The geographical limits of an Emission Control Area will be based on the relevant criteria outlined above, including emissions and deposition from ships navigating in the proposed area, traffic patterns and density, and wind conditions.

4 PROCEDURES FOR THE ASSESSMENT AND ADOPTION OF EMISSION CONTROL AREAS BY THE ORGANIZATION

4.1 The Organization shall consider each proposal submitted to it by a Party or Parties.

4.2 In assessing the proposal, the Organization shall take into account the criteria which are to be included in each proposal for adoption as set forth in section 3 above.

4.3 An Emission Control Area shall be designated by means of an amendment to this Annex, considered, adopted and brought into force in accordance with article 16 of the present Convention.

5 OPERATION OF EMISSION CONTROL AREAS

5.1 Parties which have ships navigating in the area are encouraged to bring to the Organization any concerns regarding the operation of the area.

APPENDIX IV

TYPE APPROVAL AND OPERATING LIMITS FOR SHIPBOARD INCINERATORS (Regulation 16)

(1) Ships incinerators described in regulation 16(6)(a) on board shall possess an IMO type approval certificate for each incinerator. In order to obtain such certificate, the incinerator shall be designed and built to an approved standard as described in regulation 16(6)(a). Each model shall be subject to a specified type approval test operation at the factory or an approved test facility, and under the responsibility of the Administration, using the following standard fuel/waste specification for the type approval test for determining whether the incinerator operates within the limits specified in paragraph (2) of this appendix:

Sludge Oil Consisting of:	75% Sludge oil from HFO; 5% waste lubricating oil; and 20% emulsified water.
Solid waste consisting of:	50% food waste 50% rubbish containing approx. 30% paper, " 40% cardboard, " 10% rags, " 20% plastic The mixture will have up to 50% moisture and 7% incombustible solids.

(2) Incinerators described in regulation 16(6)(a) shall operate within the following limits:

O_2 in combustion chamber:	6 - 12%
CO in flue gas maximum average:	200 mg/MJ
Soot number maximum average:	Bacharach 3 or Ringelman 1 (20% opacity) (A higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues:	Maximum 10% by Weight
Combustion chamber flue gas outlet temperature range:	850 - 1200 degrees Celsius

APPENDIX V

Appendix V will be reviewed and updated, based on the final decision.

DRAFT NEW APPENDIX VI

Fuel Verification Procedure for MARPOL Annex VI Fuel Samples

The following procedure shall be used to determine whether the fuel oil delivered to and used on board ships is compliant with the standards required by MARPOL Annex VI.

1 General Requirements

1.1 The representative fuel oil sample, which is required by paragraph 6(a) of regulation 18 (the "MARPOL sample") shall be used to verify the sulphur content of the fuel oil supplied to a ship.

1.2 An Administration, through its Port State Control Officers, shall manage the verification procedure.

1.3 The laboratories responsible for the verification procedure set forth in this appendix shall be fully accredited[18] for the purpose of conducting the test method(s).

2 Verification Procedure Stage 1

2.1 The MARPOL sample should be delivered by the port State control officers to the laboratory.

2.2 The laboratory shall:

.1 record the details of the seal number and the sample label on the test record;

.2 confirm that the condition of the seal on the MARPOL sample has not been broken; and

.3 reject any MARPOL sample where the seal has been broken.

2.3 If the seal of the MARPOL sample has not been broken, the laboratory shall proceed with the verification procedure and shall:

.1 ensure that the MARPOL sample is thoroughly homogenized;

.2 draw two sub-samples from the MARPOL sample; and

.3 reseal the MARPOL sample and record the new reseal details on the test record.

2.4 The two sub samples should be tested in succession, in accordance with the specified test method referred to in Appendix V. For the purposes of this verification procedure, the results of the test analysis shall be referred to as "A" and "B".

[18] Accreditation is in accordance with ISO 17025 or an equivalent standard.

.1 If the results of "A" and "B" are within the repeatability (r) of the test method, the results shall be considered valid; and

.2 If the results of "A" and "B" are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples should be taken by the laboratory and analysed. The sample bottle should be resealed in accordance with paragraph 2.3.3 above after the new sub-samples have been taken.

2.5 If the test results of "A" and "B" are valid, an average of these two results should be calculated thus giving the result referred to as "X".

.1 If the result of "X" is equal to or falls below the standards required by Annex VI, the fuel oil shall be deemed to meet the requirements; and

.2 If the result of "X" is greater than the standards required by Annex VI, Verification Procedure Stage 2 should be conducted; however, if the result of "X" is greater than the specification limit by 0.59R (where R is the reproducibility of the test method), the fuel oil shall be considered non-compliant and no further testing is necessarily.

3 Verification Procedure Stage 2

3.1 If Stage 2 of the verification procedure is necessarily in accordance with paragraph 2.5.2 above, the port State control officers shall send the MARPOL sample to a second accredited laboratory.

3.2 Upon receiving the MARPOL sample, the laboratory shall:

.1 record the details of the seal number and the sample label on the test record;

.2 draw two sub-samples from the MARPOL sample; and

.3 reseal the MARPOL sample and record the new reseal details on the test record.

3.3 The two sub-samples should be tested in succession, in accordance with the test method specified in Appendix V. For the purposes of this verification procedure, the results of the test analysis shall be referred to as "C" and "D".

.1 If the results of "C" and "D" are within the repeatability (r) of the test method, the results shall be considered valid; and

.2 If the results of "C" and "D" are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples shall be taken by the laboratory and analysed. The sample bottle should be resealed in accordance with paragraph 3.1.3 after the new sub-samples have been taken.

3.4 If the test results of "C" and "D" are valid, and the results of "A", "B", "C", and "D" are within the reproducibility (R) of the test method then the laboratory shall average the results, which is referred to as "Y".

.1 If the result of "Y" is equal to or falls below the standards required by Annex VI, the fuel oil shall be deemed to meet the requirements;

.2 If the result of "Y" is greater than the standards required by Annex VI, then the fuel oil fails to meet the standards required by Annex VI; and

.3 If the result of "A", "B", "C", and "D" are not within the reproducibility (R) of the test method then the Administration may discard all of the test results and, in its discretion, repeat the entire testing process.

3.5 The results obtained from the verification procedure are final.

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ANNEX 5

DRAFT AMENDED NOx TECHNICAL CODE

[The text of the draft amended NOx Technical Code may be found in document BLG 12/17/Add.1]

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ANNEX 6

PROPOSED AMENDMENTS TO THE DRAFT REVISED GUIDELINES FOR EXHAUST GAS CLEANING SYSTEMS – MARPOL ANNEX VI, REGULATION 14(4), AS AGREED BY BLG 12

10 WASHWATER

10.1 Washwater criteria

10.1.1 When the EGC System is operated in ~~a~~ ports, harbours, or estuaries, the discharge water should comply with the following limits:

10.1.2 **pH criteria**

10.1.2.1 ~~The washwater shall have a pH of not less than 6,5 at the overboard discharge with the exception that during manoeuvring and transit, the maximum difference between inlet and outlet of 2 pH units is allowed.~~ The washwater pH should comply with one of the following requirements which should be recorded in the ETM:

(i) The discharge washwater should have a pH of no less than 6.5 at the overboard discharge with the exception that during manoeuvring and transit, the maximum difference between inlet and outlet of 2 pH units is allowed.

(ii) During commissioning of the unit(s) after installation, the discharged washwater plume should be measured externally from the ship (at rest in harbour) and the discharge pH at the ship's overboard pH monitoring point will be recorded when the plume at 4 metres from the discharge point equals or is above pH 6.5. The discharged pH to achieve a minimum pH units of 6.5 will become the overboard pH discharge limit recorded in the ETM.

10.1.3 **PAHs (Polycyclic Aromatic Hydrocarbons)**

The washwater PAH should comply with the following requirements. The appropriate limit should be recorded in the ETM.

10.1.3.1 ~~The maximum continuous PAH concentration in the washwater should not be greater than [15 ppb PAH_{16} equivalents] above the inlet water PAH concentration. PAH_{16} are defined by USEPA (Method 610). For the purposes of this criteria, the PAH concentration in the washwater should be measured downstream of the water treatment equipment, but upstream of washwater dilution or other reactant dosing, if used, prior to discharge.~~ The maximum continuous PAH concentration in the washwater should not be greater than 50 µg/L PAH_{phe} (phenanthrene equivalance) above the inlet water PAH concentration. For the purposes of this criteria, the PAH concentration in the washwater should be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

10.1.3.2 ~~[The 15 ppb limit described above is normalized for a washwater flow rate through the EGC unit of 45 t/MWh where the MW refers to the nominal power of the combustion unit. This limit would have to be adjusted upward for lower washwater flow rates or for higher power, and vice versa, according to the table below. In no circumstances is the concentration to~~

~~exceed 500 ppb PAH_{16} equivalents.~~ The 50 µg/L limit described above is normalized for a washwater flow rate through the EGC unit of 45t/MWh where the MW refers to the MCR or 80% of the power rating of the fuel oil combustion unit. This limit would have to be adjusted upward for lower washwater flow rates per MWh, and vice versa, according to the table below.

~~Flow Rate (t/MWh)~~	~~Discharge Concentration Limit (ppb PAH_{16} equivalents)~~	~~Measurement Technology~~
~~0 - 1.35*~~	~~500~~	~~Ultraviolet Light~~
~~5~~	~~135~~	~~Fluorescence~~
~~11.25~~	~~60~~	~~- " -~~
~~22.5~~	~~30~~	~~- " -~~
~~45~~	~~15~~	~~- " -~~
~~90~~	~~7.5~~	~~- " -~~

~~* this flow rate was calculated based on the maximum oil discharge concentration of 15 ppm by applying a factor of 30 to PAH_{16} equivalent concentration.]~~

Flow Rate (t/MWh)	**Discharge Concentration Limit (µg/L PAH_{phe} equivalents)**	**Measurement Technology**
0 - 1	2250	Ultraviolet Light
2.5	900	- " -
5	450	Fluorescence
11.25	200	- " -
22.5	100	- " -
45	50	- " -
90	25	- " -

10.1.3.3 For a 15-minute period in any 12-hour period, the continuous PAH_{phe} concentration limit may exceed the limit described above ~~up to 500 ppb PAH_{16} equivalents. This would allow for an abnormal start up of the EGC unit.~~ by up to 100%. This would allow for an abnormal start up of the EGC unit.

10.1.4 **Turbidity/Suspended Particle Matter**

The washwater turbidity should comply with the following requirements. The limit should be recorded in the ETM.

10.1.4.1 The washwater treatment system should be designed to minimize suspended particulate matter, including heavy metals and ash.

10.1.4.2 The maximum continuous turbidity in washwater should not be greater than 25 FNU (formazin nephlometric units) or 25 NTU (nephlometric turbidity units) or equivalent units, above the inlet water turbidity. However during periods of high inlet turbidity the precision of the measurement device and the time lapse between inlet measurement and outlet measurement are such that the use of a difference limit is unreliable. Therefore all turbidity difference readings should be a rolling average over a 15-minute period to a maximum of 25 FNU. For the purposes of this criteria the turbidity in the washwater should be measured downstream of the water

treatment equipment but upstream of washwater dilution (or other reactant dosing) prior to discharge.

10.1.4.3 For a 15-minute period in any 12-hour period, the continuous turbidity discharge limit may be exceeded by 20%.

10.1.5 **Nitrates**

10.1.5.1 The washwater treatment system should prevent the discharge of nitrates beyond that associated with a ~~[10%]~~ 12% removal of NO_x from the exhaust, or beyond ~~[1]~~ 60 mg/l normalized for washwater discharge rate of 45 tons/MWh whichever is greater.

10.1.5.2 All systems should be tested for nitrates in the discharge water. If typical nitrate amounts are above 80% of the upper limit, it should be recorded in the ETM.

10.1.6 **Washwater additives and other substances**

10.1.6.1 ~~EGC technologies could employ chemical processes, active substances, preparations or create relevant chemicals *in situ*. The impact of these materials and/or processes on the washwater discharge, if unknown, should be assessed. [Taking into account the work of GESAMP and relevant guidelines such as resolution MEPC 126(53) Procedure for approval of ballast water management systems that make use of active substances (G9). GESAMP procedures should be applied to future washwater discharge assessment and if necessary the establishment of additional washwater discharge criteria.]~~
An assessment of the washwater is required for those EGC technologies which make use of active substances, preparations or create relevant chemicals *in situ*. The assessment could take into account relevant guidelines such as resolution MEPC 126(53), procedure for approval of ballast water management systems that make use of active substances (G9) and if necessary additional washwater discharge criteria should be established.

10.2 Washwater monitoring

10.2.1 pH, oil content (as measured by PAH levels), and turbidity should be continuously monitored and recorded as recommended in section 1 of these guidelines. The monitoring equipment should also meet the performance criteria described below:

pH

10.2.2 The pH electrode and pH meter should have a resolution of 0.1 pH units and temperature compensation. The electrode should comply with the requirements defined in BS 2586 or of equivalent or better performance and the meter should meet or exceed BS EN ISO 60746-2:2003.

PAH

10.2.3 ~~[~~The PAH monitoring equipment should be capable to monitor PAH in water in a range ~~of 1 ppb to 500 ppb using fluorescence light monitoring or equivalent~~ to at least twice the discharge concentration limit given in the table above. The equipment should be demonstrated to operate correctly and not deviate more than 5% in washwater with turbidity within the working range of the application.~~]~~

10.2.4 ~~[~~For those applications discharging at lower flow rates and higher PAH concentrations, ultraviolet light monitoring technology or equivalent, should be used due to its reliable operating range.~~]~~

Turbidity

10.2.5 The turbidity monitoring equipment should meet requirements defined in ISO 7027:1999 or USEPA 180.1.

10.3 Washwater monitoring data recording

10.3.1 The data recording system should comply with the requirements of sections 7 and 8 and should continuously record pH, PAH and Turbidity as specified in the washwater criteria.

10.4 Washwater residue

10.4.1 Residues generated by the EGC unit should be delivered ashore to ~~authorized~~ adequate reception facilities. Such residues should not be discharged to the sea or incinerated on board.

10.4.2 ~~The storage and disposal of washwater residues are to be documented in accordance with MARPOL Annex I Appendix III: Form of Oil Record Book Part 1 Machinery spaces, Code C: Collection and disposal of oil residues (sludge and other residues) and MARPOL Annex I, regulation 17.2.3.~~
Each ship fitted with an EGC unit should record the storage and disposal of washwater residues in an EGC log, including the date, time and location of such storage and disposal. The EGC may form a part of any existing log-book or electronic recording system as approved by the Administration.

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ANNEX 7

DRAFT GUIDELINES FOR THE DEVELOPMENT OF A VOC MANAGEMENT PLAN

1 Objectives

.1 The purpose of the VOC Management Plan is to ensure that the operation of a tanker, to which regulation 15 of Annex VI applies, prevents or minimizes VOC emissions to the extent possible.

.2 Emissions of VOCs can be prevented or minimized by:

- optimizing operational procedures to minimize the release of VOC emissions; and/or

- using devices, equipment, or design changes to prevent or minimize VOC emissions.

.3 To comply with this plan, the loading, carriage and discharge of cargoes which generate VOC emissions should be evaluated and procedures written to ensure that the operations of a ship follow best management practices for preventing or minimizing VOC emissions to the extent possible. If devices, equipment, or design changes are implemented to prevent or minimize VOC emissions, they shall also be incorporated and described in the VOC management plan as appropriate.

.4 While maintaining the safety of the ship, the VOC Management Plan should encourage and, as appropriate, set forth the following best management practices:

- the loading procedures should take into account potential gas releases due to low pressure and, where possible, the routing of oil from crude oil manifolds into the tanks should be done so as to avoid or minimize excessive throttling and high flow velocity in pipes;

- partial filling of tanks should be avoided to the extent possible since the existence of a large volume of gas above the oil in the tanks will contribute to increased VOCs in the gas that is vented and also to the VOCs remaining in the tanks after discharge. The VOCs remaining in the tanks after the discharge of cargo will be emitted due to displacement during the next loading;

- tank filling and discharge sequencing should be planned to minimize the time needed to fill or discharge each tank;

- the ship should define a target operating pressure for the cargo tanks. This pressure should be as high as safely possible and the ship should aim to maintain tanks at this level during the loading and carriage of relevant cargo;

- when venting to reduce tank pressure is required, the decrease in the pressure in the tanks should be as small as possible to maintain the tank pressure as high as possible;

- the amount of inert gas added should be minimized. Increasing tank pressure by adding inert gas does not prevent VOC release but it may increase venting and therefore increased VOC emissions; and

- when crude oil washing is considered, its effect on VOC emissions should be taken into account. VOC emissions can be reduced by shortening the duration of the washing or by using a closed cycle crude oil washing unit.

2 Additional considerations

.1 Person in charge of carrying out the plan

- A person shall be designated in the VOC Management Plan to be responsible for implementing the plan and that person may assign appropriate personnel to carry out the relevant tasks;

.2 Procedures for Preventing or Minimizing VOC emissions

- Ship-specific procedures should be written or modified to address relevant VOC emissions, including the following operations:

  - Loading;

  - Carriage of relevant cargo;

  - Discharge; and

  - Crude oil washing.

- If the ship is equipped with VOC reduction devices or equipment, the use of these devices or equipment should be incorporated into the above procedures as appropriate.

.3 Training

- The plan should describe the training programmes to facilitate best management practices for the ship to prevent or minimize VOC emissions.

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ANNEX 8

DRAFT AMENDMENTS TO MARPOL ANNEX I

1 The following chapter 8 is added:

"**CHAPTER 8 – PREVENTION OF POLLUTION DURING TRANSFER OF OIL CARGO BETWEEN OIL TANKERS AT SEA**

Regulation 40
Scope of application

1 The regulations contained in this chapter apply to any oil tanker of 150 gross tonnage and above engaged in transfer of oil cargo between oil tankers at sea (STS operations).

2 The regulations contained in this chapter shall not apply to oil transfer operations associated with fixed or floating platforms including drilling rigs, floating production, storage and offloading facilities (FPSOs) used for the offshore production storage, or transfer of oil, and floating storage units (FSUs) used for the storage or transfer of produced oil[1].

3 The regulations contained in this chapter shall not apply to bunkering operations.

4 The regulations contained in this chapter shall not apply to STS operations necessary for the purpose of securing the safety of a ship or saving life at sea, or for combating specific pollution incidents in order to minimize the damage from pollution.

5 The regulations contained in this chapter shall not apply to STS operations where either of the ships involved is a warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities that the STS operations are conducted in a manner consistent, so far as is reasonable and practicable, with this chapter.

Regulation 41
General Rules on safety and environmental protection

1 Any oil tanker involved in STS operations shall carry on board a Plan prescribing how to conduct STS operations (STS Plan). Each oil tanker's STS Plan shall be approved by its Administration. The STS Plan shall be written in the working language of the ship.

2 The STS Plan shall be developed taking into account information contained in best practice guidelines for STS operations identified by the Organization.[2] The STS Plan may be incorporated into an existing Safety Management System required by chapter IX of the International Convention for the Safety of Life at Sea, 1974, as amended, if that requirement is applicable to the oil tanker in question.

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1 *Revised Annex I of MARPOL, chapter 7 (resolution MEPC.117(52)) and UNCLOS article 56 are applicable and address these operations.*

2 *IMO's "Manual on Oil Pollution, Section I, Prevention" as amended, and the ICS and OCIMF "Ship-to-ship Transfer Guide, Petroleum", fourth edition, 2005.*

3 Any oil tanker subject to this chapter and engaged in STS operations shall comply with its STS Plan.

4 The person in overall advisory control of STS operations shall be qualified to perform all relevant duties, taking into account the qualifications contained in best practice guidelines for STS operations identified by the Organization.[3]

5 Records[4] of STS operations, shall be retained on board for three years and be readily available for inspection by a Party to the present Convention.

Regulation 42
Notification

1 Any oil tanker subject to this chapter that plans STS operations within the territorial sea, or the exclusive economic zone of a Party to the present Convention shall notify the relevant Coastal State Party not less than 48 hours in advance, of the scheduled STS operations.

2 Notification shall be given to the Coastal State Party specified in paragraph 1 of this regulation[5], and shall include at least the following:

.1 name, flag, call sign, IMO Number and estimated time of arrival (ETA) of the oil tankers involved in the STS operations;

.2 date, time and geographical location at the commencement of the planned STS operations;

.3 whether STS operations are to be conducted at anchor or underway;

.4 oil type and quantity;

.5 planned duration of operation;

.6 identification of Ship-To-Ship provider or person in overall advisory control and contact information; and

.7 confirmation that the oil tanker has on board an STS Plan meeting the requirements of regulation 41.

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[3] *IMO's "Manual on Oil Pollution, Section I, Prevention" as amended, and the ICS and OCIMF "Ship-to-ship Transfer Guide, Petroleum", fourth edition, 2005.*

[4] *Revised Annex I of MARPOL chapters 3 and 4 (resolution MEPC.117(52)); requirements for recording bunkering and oil cargo transfer operations in the Oil Record Book, and any records required by the STS Plan.*

[5] *The national operational contact point as listed in document MSC-MEPC.6/Circ.4 of 31 December 2007 or its subsequent amendments.*

3 If the ETA of an oil tanker at an STS operations' location or area changes by more than six hours, the master, owner or agent of that oil tanker shall provide a revised ETA to the relevant Coastal State Party to the present Convention specified in paragraph 1 of this regulation."

2 In the Record of Construction and Equipment for Oil Tankers, Form B, new section 8A is added as follows:

"**8A Ship to ship oil transfer operations at sea**
(regulation 41)

8A.1 The oil tanker is provided with an STS Plan in compliance

with regulation 41 □"

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ANNEX 9

DRAFT AMENDMENTS TO RECOMMENDATION FOR MATERIAL SAFETY DATA SHEETS FOR MARPOL ANNEX I CARGOES AND MARINE FUEL OILS (RESOLUTION MSC.150(77))

ANNEX 1

MATERIAL SAFETY DATA SHEETS (MSDS) FOR MARINE USE SUITABLE TO MEET PARTICULAR NEEDS OF THE MARINE INDUSTRY CONTAINING SAFETY, HANDLING AND ENVIRONMENTAL INFORMATION TO BE SUPLIED TO A SHIP PRIOR TO THE LOADING OF MARPOL ANNEX I TYPE CARGOES AND MARINE FUEL OILS

1	**Identification of the substance or mixture and of the supplier**	• Name of the category – see supporting guidelines for each MARPOL Annex I category type as shown in Annex 2 • The name of the substances • Trade name of the substances • Description on~~f~~ Bill of Lading (B/L), Bunker Delivery Note or other shipping document • Other means of identification • Supplier's details (including name, address, phone number, etc.) • Emergency phone number
2	**Hazards identification**	• GHS classification of the substance/mixture and any regional information. • Other hazards which do not result in classification (e.g. dust explosion hazard) or are not covered by the GHS~~*~~).
3	**Composition/information on ingredients**	• Common name, synonyms, etc. • Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substances. • The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of GHS ~~*~~ and are present above their cut-off levels. Cut-off level for reproductive toxicity, carcinogenicity and category 1 mutagenicity is 0.1%. Cut-off level for all other hazard classes is 1%.
4	**First aid measures**	• Description of necessary measures, subdivided according to the different routes of exposure, i.e. inhalation, skin and eye contact and ingestion. • Most important symptoms/effects, acute and delayed. • Indication of immediate medical attention and special treatment, if necessary.

~~* Note: For information on ingredients, the competent authority rules for CBI take priority over the rules for product identification.~~

5	**Fire-fighting measures**	• Suitable extinguishing media. • Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products). • Special protective equipment and precautions for fire-fighters.
6	**Accidental release measures**	• Personal precautions, protective equipment and emergency procedures. • Environmental precautions. • Methods and materials for containment and clean up.
7	**Handling and storage**	• Precautions for safe handling. • Conditions for safe storage, including any incompatibilities.
8	**Exposure controls/personal protection**	• Control parameters, e.g., occupational exposure limit values • Appropriate technical precautions • Individual protection measures, such as personal protective equipment
9	**~~Actual p~~Physical ~~[~~and~~]~~ chemical ~~and operational~~ properties**	• See supporting guidelines for each ~~Annex 1~~ category type shown in Annex 2
10	**Stability and reactivity**	• Chemical stability. • Possibility of hazardous reactions. • Conditions to avoid (e.g., static discharge).
11	**Toxicological information**	• Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including: • Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact); • Symptoms related to the physical, chemical and toxicological characteristics; • Delayed and immediate effects and also chronic effects from short- and long-term exposure. • Numerical measures of toxicity (such as acute toxicity estimates)
12	**Ecological information**	• Ecotoxicity (aquatic and terrestrial, where available). • Persistence and degradability • Bioaccumulation potential • Mobility in soil • Other adverse effects
13	**Disposal considerations**	• Description of waste residues and information on their safe handling and methods of disposal, in line with MARPOL requirements.
14	**Transport information**	• UN number, where applicable • UN Proper shipping name, where applicable • Transport Hazard class(es), where applicable • Special precautions which a user needs to be aware of or needs to comply with in connection with transport (e.g., heating and carriage temperatures) • Note that this product is being carried under the scope of MARPOL Annex I.

15	**Regulatory information**	• Safety, health and environmental regulations specific for the product in question
16	**Other information including information on preparation and revision of the MSDS**	• Version No. • Date of issue • Issuing source

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ANNEX 10

PROPOSED REVISED WORK PROGRAMME OF THE SUB-COMMITTEE AND PROVISIONAL AGENDA FOR BLG 13

PROPOSED REVISED WORK PROGRAMME OF THE SUB-COMMITTEE

Priority	Title and reference to strategic directions, high-level actions and planned outputs for 2008-2009	Target completion date/number of sessions needed for completion	Reference
1	**Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments** *Strategic Direction:* 7.2 and 1.3 *High-level Action:* 7.2.2 and 1.3.3 *Planned output:* 7.2.2.1 and 1.3.3.1	Continuous	BLG 10/19, section 3 BLG 11/16, section 3
2	**Casualty analysis** (co-ordinated by FSI) *Strategic Direction:* 12 *High-level Action:* 12.1.2 *Planned output:* 12.1.2.1 to .2	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 80/24, paragraph 21.6; BLG 11/16, section 12
3	**Consideration of IACS unified interpretations** *Strategic Direction:* 1 *High-level Action:* 1.1.2 *Planned output:* 1.1.2.1	Continuous	MSC 78/26, paragraph 22.12; BLG 11/16, section 11
H.1	Environmental and safety aspects of alternative tanker designs under MARPOL, Annex I, regulation 19 *Strategic Direction:* 7.2 *High-level Action:* 7.2.2 *Planned output:* 7.2.2.1 .1 assessment of alternative tanker designs, if any (as necessary)	Continuous	BLG 3/18, paragraph 15.7 BLG 1/20, section 16; BLG 4/18, paragraph 15.3

Notes: 1 "H" means a high priority item and "L" means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for BLG 13.

Priority	Title and reference to strategic directions, high-level actions and planned outputs for 2008-2009	Target completion date/number of sessions needed for completion	Reference
H.2	**Development of provisions for gas-fuelled ships** (in co-operation with FP and DE) *Strategic Direction:* 5.2 *High-level Action:* 5.2.1 *Planned output:* 5.2.1.1	2009	MSC 78/26, paragraph 24.11; BLG 11/16, section 6
H.3	**Development of guidelines and other documents for uniform implementation of the 2004 BWM Convention** *Strategic Direction:* 7.1 *High-level Action:* 7.1.2 *Planned output:* 7.1.2.2 to .5	~~2008~~ 2010	MEPC 52/24, paragraph 2.21.6; ~~BLG 11/16, section 4~~ BLG 12/17, section 5
~~H.4~~	~~**Amendments to MARPOL Annex I for the prevention of marine pollution during oil transfer operations between ships at sea**~~ ~~*Strategic Direction:* 7.2~~ ~~*High-level Action:* 7.2.2~~ ~~*Planned output:* 7.2.2.1~~	~~2008~~	~~MEPC 53/24, paragraph 20.6;~~ ~~BLG 11/16, section 4~~
~~H.5~~	~~**Review of MARPOL Annex VI and the NOx Technical Code**~~ ~~*Strategic Direction:* 7.1~~ ~~*High-level Action:* 7.1.1 to 7.1.3~~ ~~*Planned output:* 7.3.1.1~~	~~2008~~	~~MEPC 53/24, paragraph 4.50;~~ ~~BLG 11/16, section 5~~
~~H.6~~ H.4	**Application of the requirements for the carriage of bio-fuels and bio-fuel blends** *Strategic Direction:* 7.2 *High-level Action:* 7.2.2 *Planned output:* 7.2.2.1	~~2008~~ 2009	MEPC 55/23, paragraphs 19.4 and 19.5 BLG 12/17, section 4

Priority	Title and reference to strategic directions, high-level actions and planned outputs for 2008-2009	Target completion date/number of sessions needed for completion	Reference
~~H.7~~ H.5	**Development of international measures for minimizing the ~~translocation~~ transfer of invasive aquatic species through bio-fouling of ships** *Strategic Direction:* 7.1 *High-level Action:* 7.1.1 *Planned output:* -	2010	MEPC 56/23, paragraph 19.12
~~H.8~~ H.6	**Review of the Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels** *Strategic Direction:* 5.2 *High-level Action:* 5.2.3 *Planned output:* 5.2.3.1	~~2008~~ 2009	~~BLG 11/16, paragraph 14.14; MSC 83/28, paragraph 25.8~~ BLG 12/17, section 12
~~H.9~~ H.7	**Revision of the IGC Code** (in co-operation with FP, DE, SLF and STW) *Strategic Direction:* 5.2 *High-level Action:* 5.2.1 *Planned output:* -	2010	MSC 83/28, paragraph 25.7
~~H.10~~ H.8	**Safety requirements for natural gas hydrate pellet carriers** *Strategic Direction:* 5.2 *High-level Action:* 5.2.1 *Planned output:* -	~~3 sessions~~ 2011	MSC 83/28, paragraph 25.6
H.9	**Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NOx Technical Code** *Strategic Direction:* 7.3 *High-level Action:* 7.3.1 *Planned output:* 7.3.1.1	2010	BLG 12/17, paragraph 6.88.9

H.10	**Amendments to MARPOL Annex I on the use and carriage of heavy grade oil (HGO) on ships in the Antarctic area** *Strategic Direction:* 7.2 *High-level Action:* 7.2.2 *Planned output:* None at present	2010	BLG 12/17, paragraph 16.12
~~L.1~~	~~Guidelines on other technological methods verifiable or enforceable to limit SOx emissions~~ ~~*Strategic Direction:* 7.3~~ ~~*High-level Action:* 7.3.1~~ ~~*Planned output:* 7.3.1.1~~	~~2 sessions~~	~~MEPC 53/24, paragraph 4.40;~~ ~~BLG 11/16, section 9~~

DRAFT PROVISIONAL AGENDA FOR BLG 13*

Opening of the session

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 Review of the Recommendations for material safety data sheets for MARPOL Annex I cargoes and marine fuels

11 Revision of the IGC Code

12 Safety requirements for natural gas hydrate pellet carriers

13 Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NOx Technical Code

14 Amendments to MARPOL Annex I on the use and carriage of heavy grade oil (HGO) on ships in the Antarctic area

15 Work programme and agenda for BLG 13

16 Election of Chairman and Vice-Chairman for 2009

17 Any other business

18 Report to the Committees

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* Agenda item numbers do not necessarily indicate priority.

ANNEX 11

JUSTIFICATION FOR INCLUDING A NEW ITEM IN THE WORK PROGRAMME OF THE BLG SUB-COMMITTEE ON AMENDMENTS TO MARPOL ANNEX I ON THE USE AND CARRIAGE OF HEAVY GRADE OIL IN THE ANTARCTIC AREA

1 Scope of the proposal

1.1 The proposal is to develop amendments to MARPOL Annex I relating to the use and carriage of heavy grade oil (HGO) in the Antarctic area on board ships.

2 Compelling need

2.1 The need to enhance the current level of protection from oil pollution the Southern Ocean currently enjoys under MARPOL is compelling on the following grounds.

2.2 The *Antarctic area*, meaning the sea area south of latitude 60º S, is a Special Area for the purposes of MARPOL Annex I and, as such, it enjoys the special protection granted by the more stringent requirements concerning the discharge of oil into the marine environment that MARPOL Annex I mandates for Special Areas in general. In addition, and in accordance with the requirements of regulation 15.4 of the Annex, **any discharge into the sea of oil or oily mixtures from any ship shall be prohibited**. This extra protection, relating to operational (not accidental) pollution, is granted solely to the Antarctic area under MARPOL Annex I thus reflecting the very special status that it already enjoys under the MARPOL Convention.

2.3 The Antarctic area has recently seen a steady and continuous increase in the number of commercial ships, mainly cruise vessels, visiting the area. Recent incidents, including the sinking of the **Explorer** last November, have highlighted the need to upgrade the measures to protect this pristine and ecologically most sensitive area from oil pollution, not only from operational pollution, which the existing ban on discharges set out in MARPOL Annex I regulation 15 addresses adequately, but also in respect of accidental pollution as a consequence of grounding, breach of hull or sinking.

2.4 HGO is conceivably the most damaging for the marine environment of all crude and product oils subject to Annex I, thus the sinking of a single ship with HGO on board in the waters surrounding Antarctica would have catastrophic consequences and severely impact on the wildlife, fishing resources and delicate equilibrium of this extreme environment for many years to come.

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

3.1 Recent research indicates that among the commercial ships visiting the area, very few among them actually use HGO as fuel for propulsion or auxiliary machinery. Hence, any measures banning or restricting the use and carriage of HGO in the area are expected to exert little impact on shipping.

3.2 However, in line with other IMO instruments, and having carefully assessed the likely impact that the amendments would have on some essential services to shipping, it is envisaged that the measures would not apply to warships, naval auxiliaries, ships on government non-commercial service and ships on SAR or oil pollution combating missions.

3.3 In addition, lubricating oils could be exempted from the measures and an adequate definition of HGO for the purposes of the proposed amendments should be developed.

3.4 Compliance and enforcement are, however, issues that ought to be carefully studied before the entry into force of the amendments. However, it is believed that a robust port State control regime could take care of this aspect in respect of those ships that would be well known to offer commercial trips in the Antarctic area and call at well-publicized departure and arrival ports.

3.5 Having considered the above, it is believed that the costs to the maritime industries and Administrations would not be too high vis-à-vis the values now clearly in peril.

4 Benefits

4.1 As outlined in the preceding paragraphs, the benefits for the Antarctic waters and humankind in general greatly exceed any burdens, including monetary costs, to operators and Administrations alike.

5 Priority and target completion date

5.1 This matter should have a high priority in view of the considerable concern of Administrations and world public opinion.

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

6 Specific indication of action required

To develop a set of amendments to MARPOL Annex I on the use and carriage of HGO in the Antarctic area.

7 Remarks on the criteria for general acceptance

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

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

Strategic Direction: 7.2
High-level Action: 7.2.2
Planned output: ---

.3 Adequate industry standards do not exist.

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

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

The work should be accomplished by the BLG Sub-Committee, in co-operation with the DE Sub-Committee, as necessary.

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ANNEX 12

DRAFT MEPC CIRCULAR

REQUIREMENTS FOR THE CARRIAGE OF GAS-TO-LIQUID OILS

1 The Marine Environment Protection Committee, at its [fifty-eighth session (6 to 10 October 2008)], noted the consideration of BLG 12 (4 to 8 February 2008) that Gas-to-Liquid (GTL) oils are derived from petroleum natural gas using a refining process and are considered analogous to their conventional crude oil derived counterparts, which are regulated under MARPOL Annex I. The supply chain infrastructure, such as pipelines, terminals, and storage facilities ashore is common with conventionally manufactured oils.

2 In recognition that GTL oils are currently being transported under MARPOL Annex I and that they meet all operation requirements, the Marine Environment Protection Committee, after consideration, confirmed that the marine transport of petroleum gas derived Gas-to-Liquid (GTL) oils (naphtha, kerosene, diesel and lubricating base oils) should be handled in accordance with the requirements of MARPOL Annex I.

3 Member Governments are invited to bring this Circular to the attention of all parties concerned, including port State control officers.

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ANNEX 13

PROPOSED FUTURE WORK PROGRAMME FOR THE ESPH WORKING GROUP

1	Evaluation of new products	Ongoing
2	Cleaning additives:	
	.1 Evaluation of new cleaning additives	Ongoing
	.2 Re-evaluation of cleaning additives in annex 10 to the MEPC.2/Circular	2010
3	Review of MEPC.2/Circular – Provisional classification of liquid substances transported in bulk and other related matters	Ongoing
4	Consideration of the outcome of the most recent session of GESAMP/EHS	Ongoing
5	Consideration of the application of requirements for the carriage of bio-fuels and bio-fuel blends, including blending on board	2009
6	Review of chapter 19 of the IBC Code	2009
7	Any other business	

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