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REPORT TO THE MARINE ENVIRONMENT PROTECTION COMMITTEE

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1 GENERAL

1.1 The Sub-Committee on Pollution Prevention and Response (PPR) held its sixth session from 18 to 22 February 2019, chaired by Mr. Sveinung Oftedal (Norway). The Vice-Chair, Dr Flavio Da Costa Fernandes (Brazil), was also present.

1.2 The session was attended by delegations from Member Governments and an Associate Member of IMO; by representatives from United Nations and specialized agencies; and by observers from international organizations and non-governmental organizations in consultative status, as listed in document PPR 6/INF.1.

Opening address

1.3 The Secretary-General welcomed participants and delivered his opening address, the full text of which can be downloaded from the IMO website at the following link: <http://www.imo.org/MediaCentre/SecretaryGeneral/Secretary-GeneralsSpeechesToMeeting>

Chair's remarks

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

Adoption of the agenda and related matters

1.5 The Sub-Committee adopted the agenda (PPR 6/1) and agreed to be guided in its work, in general, by the annotations contained in documents PPR 6/1/1 and PPR 6/1/1/Add.1 (Secretariat) and the proposed arrangements for the session set out in document PPR 6/1/2 (Chair).

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the outcomes of MEPC 72, MSC 99, CCC 5, III 5, MEPC 73 and MSC 100 relevant to its work, as reported in documents PPR 6/2, PPR 6/2/1, PPR 6/2/2, PPR 6/2/3 and PPR 6/2/4 (Secretariat), and took appropriate action under the relevant agenda items.

2.2 The Sub-Committee was informed orally by the Secretariat that the Correspondence Group on Industrial Personnel (IP), which had been re-established by SDC 6, would be considering provisions in the draft IP Code relating to the carriage of dangerous goods and hazardous liquid substances while carrying industrial personnel. Consequently, the Sub-Committee encouraged delegations attending PPR 6 that had relevant expertise to contact the Coordinator¹ of the IP Correspondence Group, with a view to participating and contributing to the work of that Group.

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Coordinator:

Mrs. Turid Stemre
Director IMO Affairs
International environment, safety and security
P.O. Box 2222
N-5509 Haugesund, Norway
Tel: +47 52 74 51 51
Email: tbs@mdir.no

3 SAFETY AND POLLUTION HAZARDS OF CHEMICALS AND PREPARATION OF CONSEQUENTIAL AMENDMENTS TO THE IBC CODE

3.1 The Sub-Committee agreed to refer documents PPR 6/3/1 (Norway), PPR 6/3/2 (Norway), PPR 6/3/3 (Norway) and PPR 6/3/4 (United States) directly to the ESPH Working Group, having noted that they pertained to ongoing tasks of the Group.

Report of ESPH 24 and related documents

3.2 Having recalled that ESPH 24 had taken place from 1 to 5 October 2018, the Sub-Committee considered the report of ESPH 24 (PPR 6/3), together with related documents submitted to this session, and took action as outlined in paragraphs 3.3 to 3.23.

Outcome of GESAMP/EHS 55

3.3 The Sub-Committee noted the outcome of the discussions of GESAMP/EHS 55, particularly the finalization of the draft revised GESAMP Reports and Studies No.64.

3.4 Regarding the development of a recommendation concerning cut-off values to be used when assessing mixtures, the Sub-Committee noted that GESAMP/EHS 55 had been unable to finalize this work due to time constraints. The Group had nonetheless developed text describing the procedure used by the GESAMP/EHS Working Group for assigning ratings to mixtures for all columns, including column D3, which would form the basis for developing a simplified recommendation at GESAMP/EHS 56.

Evaluation of products and cleaning additives

3.5 With regard to the provisional categorization of liquid substances, the Sub-Committee:

- .1 concurred with the evaluation of products and noted their respective inclusion in lists 1, 2, 3 and 5 of MEPC.2/Circ.24, with validity for all countries and with no expiry date;
- .2 concurred with the Group's decision that deviations from the venting and ventilation requirements for non-volatile corrosive solid substances transported in aqueous solutions could be acceptable, on a case-by-case basis, subject to the vapour pressure of the solid not being available but expected to be very low;
- .3 concurred with the evaluation of cleaning additives and noted their inclusion in annex 10 to MEPC.2/Circ.24; and
- .4 noted that MEPC.2/Circ.24 had been published on 1 December 2018.

Clarification on the implementation of the MEPC.2/Circular

3.6 The Sub-Committee noted the discussions and the clarifications that had been agreed by ESPH 24 relating to the shipment of the following four paraffin-like cargoes: "n-Alkanes (C10-C20)"; "Paraffin wax, highly-refined"; "Paraffin wax, semi-refined"; and "Hydrocarbon wax", which had been assigned updated names and carriage requirements by ESPH 23 and subsequently included in list 1 of the MEPC.2/Circular as of MEPC.2/Circ.23 (issued on 1 December 2017), in advance of the entry into force of the revised chapter 17 of the IBC Code.

3.7 In this context, the Sub-Committee had for its consideration document PPR 6/3/5 (OCIMF and IPTA) proposing that the clarifications that had been agreed by ESPH 24 be prepared in the form of a draft MEPC circular for approval by MEPC 74.

3.8 In considering the matter, the Sub-Committee noted the view expressed by some delegations that more general guidance on the application of the MEPC.2/Circular for any product that had been reclassified and added to list 1 of the MEPC.2/Circular with revised carriage requirements would be beneficial.

3.9 Taking into account the above, the Sub-Committee instructed the ESPH Working Group to finalize a draft MEPC circular to provide guidance on the implementation of the MEPC.2/Circular in relation to the above-mentioned paraffin-like cargoes, using the annex to document PPR 6/3/5 as a basis, and to consider the proposal for developing more general guidance applicable to all cargoes.

Review of products in lists 2, 3 and 4 of the MEPC.2/Circular

3.10 The Sub-Committee noted the deliberations of ESPH 24 regarding the potential review of the products in lists 2, 3 and 4 of the MEPC.2/Circular that had been evaluated prior to the in-principle approval of the draft revised chapter 21 of the IBC Code by MEPC 71 and MSC 98.

3.11 In this regard, the Sub-Committee invited Administrations to communicate with manufacturers and requested that they provide information, to be passed on to the ESPH Working Group, regarding whether their products in the above-mentioned lists were still being shipped, with a view to removing products that were no longer being shipped from the MEPC.2/Circular.

3.12 The Sub-Committee also authorized ESPH 25 to further consider the option of assigning an expiry date to all products in lists 2 and 4 of the MEPC.2/Circular and on products in list 3, with validity for all countries, with a view to advising the Sub-Committee on how the review of the products in the above-mentioned lists could be implemented to ensure that the carriage requirements reflected the most up-to-date GHPs, IBC Code criteria and associated guidance.

Revision of MEPC.1/Circ.512 and BLG.1/Circ.33, and the development of guidance for assessing and classifying complex chemical mixtures

3.13 The Sub-Committee recalled that PPR 5 had, following the finalization of the draft revised chapters 17, 18, 19 and 21 of the IBC Code, instructed the ESPH Working Group to capture all relevant decisions in relation to the assignment of carriage requirements under the IBC Code by updating BLG.1/Circ.33 and MEPC.1/Circ.512, as appropriate.

3.14 Having also recalled that PPR 3 had instructed the ESPH Working Group to develop guidance for assessing and classifying complex petrochemical mixtures in the context of determining whether they should be covered by MARPOL Annex I or Annex II, the Sub-Committee noted that ESPH 24 had developed the draft text for such guidance and included it as a new section 9 in the draft revised MEPC.1/Circ.512, set out in annex 4 to document PPR 6/3.

3.15 Having also noted the progress of the Group with regard to the revision of MEPC.1/Circ.512 and BLG.1/Circ.33, the Sub-Committee instructed the ESPH Working Group to:

- .1 finalize the draft revised MEPC.1/Circ.512, including the guidance for the assessment of complex petrochemical mixtures, based on annex 4 to document PPR 6/3; and
- .2 finalize a draft PPR.1 circular on *Decisions with regard to the categorization and classification of products*, based on annex 5 to document PPR 6/3.

Inclusion of energy-rich fuels in new annex 12 to MEPC.2/Circ.24 and consequential modifications and amendments required

3.16 With regard to energy-rich fuels, the Sub-Committee recalled that MEPC 73 had approved the *Guidelines for the carriage of energy-rich fuels and their blends* (MEPC.1/Circ.879) and had endorsed the consequential inclusion of a new annex 12 in the MEPC.2/Circular on the *Provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC code*, for the purpose of identifying substances that had been assessed and deemed to be subject to MARPOL Annex I.

3.17 In this context, the Sub-Committee concurred with the assessment by ESPH 24 regarding seven classes of alkanes as energy-rich fuels and noted their inclusion in the new annex 12 (Energy-rich fuels subject to Annex I of MARPOL) to MEPC.2/Circ.24.

3.18 The Sub-Committee also noted that, following the inclusion of the seven classes of alkanes in annex 12 to MEPC.2/Circ.24, consequential modifications to the draft revised chapter 17 of the IBC Code were necessary prior to its adoption by MEPC 74 and MSC 101 (i.e. deletion of the entries that had been included in annex 12 to MEPC.2/Circ.24, as well as deletion of their corresponding biofuel blend entries).

3.19 The Sub-Committee further noted that, similarly, consequential amendments to the *2011 Guidelines for the carriage of blends of petroleum oil and biofuels, as amended* (MEPC.1/Circ.761/Rev.1) were also needed (i.e. deletion of references to alkanes (C10-C26), linear and branched with a flashpoint of either $\leq 60^{\circ}\text{C}$ or $>60^{\circ}\text{C}$).

3.20 The Sub-Committee therefore instructed the ESPH Working Group to prepare the consequential modifications and amendments to the draft revised chapter 17 of the IBC Code and the *2011 Guidelines for the carriage of blends of petroleum oil and biofuels, as amended* (MEPC.1/Circ.761/Rev.1), respectively, for consideration by the Sub-Committee.

Provisional agenda for ESPH 25

3.21 The Sub-Committee recalled that MEPC 72 had approved the holding of an intersessional meeting of the ESPH Working Group in 2019, which had subsequently been endorsed by C 120. In this context, the Sub-Committee approved the provisional agenda for ESPH 25, subject to any possible revisions/additions made by the ESPH Working Group.

Safety of ships using methyl/ethyl alcohol as fuel

3.22 The Sub-Committee noted the relevant outcomes of CCC 5 (PPR 6/2/1) and MSC 100 (PPR 6/2/4, paragraph 2.1), and in particular noted that MSC 100 had endorsed the referral of the relevant parts of the draft *Interim Guidelines for the safety of ships using methyl/ethyl alcohol as fuel* to PPR 6 for consideration, with a view to advising CCC 6 accordingly.

3.23 Consequently, the Sub-Committee instructed the ESPH Working Group to consider paragraph 5.3.2 of the draft Interim Guidelines, as set out in annex 1 to document CCC 5/WP.3, and advise the Sub-Committee accordingly.

Establishment of the ESPH Working Group

3.24 The Sub-Committee established the Working Group on Evaluation of Safety and Pollution Hazards of Chemicals (ESPH) and instructed it, taking into account the comments, proposals and decisions made in plenary, to:

- .1 conduct an evaluation of new products based on the information contained in documents PPR 6/3/1, PPR 6/3/2, PPR 6/3/3 and PPR 6/3/4;
- .2 conduct an evaluation of cleaning additives;
- .3 finalize the draft revised MEPC.1/Circ.512, including the guidance for the assessment of complex petrochemical mixtures, based on annex 4 of document PPR 6/3;
- .4 finalize the draft PPR.1 circular on *Decisions with regard to the categorization and classification of products*, based on annex 5 of document PPR 6/3;
- .5 finalize a draft MEPC circular on *Clarification for the implementation of the MEPC.2/Circular on the Provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC Code*, using the annex to document PPR 6/3/5 as a basis;
- .6 prepare the consequential modifications to the draft revised chapter 17 of the IBC Code, resulting from the inclusion of new annex 12 in MEPC.2/Circ.24;
- .7 prepare the draft consequential amendments to the *2011 Guidelines for the carriage of blends of petroleum oil and biofuels as amended* (MEPC.1/Circ.761/Rev.1), resulting from the inclusion of the new annex 12 in MEPC.2/Circ.24;
- .8 consider paragraph 5.3.2 of the draft *Interim Guidelines for the safety of ships using methyl/ethyl alcohol as fuel* (CCC 5/WP.3, annex 1), and advise the Sub-Committee accordingly; and
- .9 review the draft agenda for ESPH 25 and revise as appropriate, based on progress made during the session.

Report of the ESPH Working Group

3.25 Having considered the report of the ESPH Working Group (PPR 6/WP.3), the Sub-Committee approved it in general and took action as outlined in paragraphs 3.26 to 3.40.

Evaluation of products

3.26 The Sub-Committee concurred with the results of the Group's evaluation of list 1 and list 3 products, as set out in annexes 1 and 2 to document PPR 6/WP.3, respectively, and their

inclusion in the next revision of the MEPC.2/Circular (MEPC.2/Circ.25), to be issued in December 2019.

Evaluation of cleaning additives

3.27 The Sub-Committee noted that 8 of the 20 products proposed as cleaning additives met the criteria set out in MEPC.1/Circ.590 and concurred with the results of the Group's evaluation of cleaning additives, as set out in annex 3 of document PPR 6/WP.3, and their inclusion in the next revision of the MEPC.2/Circular (MEPC.2/Circ.25), to be issued in December 2019. In this context, the Sub-Committee concurred with the Group's decision regarding the need for a revision of the Revised tank cleaning additives guidance note and reporting form (MEPC.1/Circ.590) and invited Member States to submit proposals to ESPH 25.

Review of MEPC.2/Circular

3.28 The Sub-Committee noted that the tripartite agreements for 35 products would reach their expiry dates in December 2019 (PPR 6/WP.3, paragraph 5.2) and invited Member Governments to take action as appropriate, to avoid any delay in the carriage of these products beyond their expiry dates.

Clarification on the implementation of the MEPC.2/Circular

3.29 The Sub-Committee concurred with the draft MEPC circular on guidance on the implementation of provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC Code related to paraffin-like products, as set out in annex 1, for submission to MEPC 74 for approval.

3.30 The Sub-Committee further noted that divergent views had been expressed regarding the proposal to develop broader guidance on the application of the MEPC.2/Circular for any product that had been reclassified and added to list 1 of the MEPC.2/Circular with revised carriage requirements, and that given the lack of agreement on a way forward, the Group was not able to consider this matter further. However, the Sub-Committee noted the Group's view that interested Member States could submit proposals to a future session should they wish to make a concrete proposal on this issue.

Draft modifications to the draft amendments to the IBC Code

3.31 The Sub-Committee noted that the Group had prepared draft modifications to chapter 1 of the IBC Code to make reference to the *Code for Recognized Organizations* (RO Code), in order to be in line with regulation 8.2.2 of MARPOL Annex II and regulation XI-1/1 of SOLAS.

3.32 The Sub-Committee also noted that, as instructed, the Group had agreed draft modifications to the draft revised chapters 17 and 19 of the IBC Code by deleting a number of entries in the respective tables in those chapters, as consequential amendments following the approval of the addition of annex 12 of MEPC.2/Circ.24.

3.33 Subsequently, the Sub-Committee agreed the draft modifications to the draft amendments to the IBC Code as approved by MEPC 73 and MSC 100, as set out in annex 2, for consideration by MEPC 74 and MSC 101 with a view to adoption.

3.34 The Sub-Committee also noted a proposal by the Group to re-order the definitions in chapter 1 of the IBC Code in alphabetical order, subject to any cross-referencing issues that may arise as a result being taken into account, and agreed that this could be referred to the

drafting group on amendments to mandatory instruments to be established at MEPC 74 and MSC 101.

Draft MSC-MEPC circular on Revised guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes

3.35 The Sub-Committee agreed to the draft MSC-MEPC circular on *2019 Guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes*, as set out in annex 3, for subsequent approval by MEPC 74 and MSC 101.

Revision of MEPC.1/Circ.512 and guidance for complex mixtures

3.36 The Sub-Committee agreed to the draft revised MEPC circular on *Guidelines for the provisional assessment of liquid substances transported in bulk*, which included the guidance for assessing complex mixtures, as set out in annex 4, for approval by MEPC 74.

Revision of BLG.1/Circ.33

3.37 The Sub-Committee agreed to the draft PPR.1 circular on *Decisions with regard to the categorization and classification of products*, as set out in annex 5, for endorsement by MEPC 74 and MSC 101.

3.38 The Sub-Committee concurred with the decision of the ESPH Working Group to invite GESAMP/EHS to review the guidance contained in the circular and to consider the possibility of a review and update of GHP ratings for products in the GESAMP Composite List, in line with this guidance, for purposes of consistency and harmonization.

Draft Interim Guidelines for the safety of ships using methyl/ethyl alcohol as fuel

3.39 Based on the outcome of the ESPH Working Group, the Sub-Committee concurred with paragraph 5.3.2 of the draft Interim Guidelines for the safety of ships using methyl/ethyl alcohol as fuel (CCC 5/WP.3, annex 1) and agreed to advise CCC 6 accordingly.

Provisional agenda for ESPH 25

3.40 The Sub-Committee approved the provisional agenda for ESPH 25, as set out in annex 6.

4 REVISED GUIDANCE ON BALLAST WATER SAMPLING AND ANALYSIS

4.1 The Sub-Committee noted that the BWM Convention had entered into force on 8 September 2017 and that the number of Contracting Governments was currently 80, representing 80.94% of the world's merchant fleet tonnage.

4.2 The Sub-Committee recalled that PPR 5 had agreed to keep document PPR 5/5/2 (ICES) in abeyance for consideration at this session pending the outcome of MEPC 72. The Sub-Committee also noted that MEPC 72 had concurred with the view of the Ballast Water Review Group that further consideration of that document at this session was required, with a view to the addition of an annex on analytical procedures for sampling and analysis to the *Data gathering and analysis plan for the experience-building phase associated with the BWM Convention* (BWM.2/Circ.67).

4.3 In considering document PPR 5/5/2 (ICES), there was support for the proposal and some delegations identified certain aspects that should be addressed in the proposed standard

operating procedures (SOPs) so that they could be brought more in line with the requirements of Guidelines (G2), including the representativeness of samples, the practicality of the procedures and the use of appropriate sampling equipment. The Sub-Committee noted that these delegations could work with ICES to reflect these points in the SOPs.

4.4 The Sub-Committee agreed that, rather than including an annex in BWM.2/Circ.67 containing the SOPs, it was preferable to insert the link to the SOPs referred to in paragraph 9 of document PPR 5/5/2, and subsequently requested the Secretariat to prepare a draft revised BWM circular, incorporating the link to the SOPs, as set out in annex 7, with a view to approval by MEPC 74.

4.5 The Sub-Committee also encouraged the use of the SOPs and equipment referred to in paragraph 9 of document PPR 5/5/2 by scientific researchers studying the efficacy of ballast water management systems.

4.6 The Sub-Committee considered document PPR 6/4 (Denmark), proposing the development of a standard for verification of ballast water compliance monitoring systems; the delegation of Denmark also proposed an extension of this output in order to undertake this work. In this regard, the Sub-Committee noted that the proposal in document PPR 6/4 was not within the scope of this output but would constitute a new work item that could be considered under the new output "Urgent measures emanating from issues identified during the experience-building phase of the BWM Convention", which had been approved by MEPC 73. In the ensuing discussion, there was overwhelming support for the development of a standard for verification of ballast water compliance monitoring systems and several delegations expressed an interest in contributing to this work. One delegation commented that such a standard should be no different to the requirements for indicative analysis in the context of commissioning testing and port State control inspections.

4.7 In light of the above, the Sub-Committee invited the delegation of Denmark and other interested delegations to submit a concrete proposal under the output "Urgent measures emanating from issues identified during the experience-building phase of the BWM Convention" at a future session of MEPC, taking into account the comments made at that session.

Completion of the work on the output

4.8 In view of the above, the Sub-Committee invited MEPC 74 to note that the work on this output had been completed.

5 REVISED GUIDANCE ON METHODOLOGIES THAT MAY BE USED FOR ENUMERATING VIABLE ORGANISMS

5.1 The Sub-Committee recalled that MEPC 71 had approved BWM.2/Circ.61 on *Guidance on methodologies that may be used for enumerating viable organisms for type approval of ballast water management systems*.

5.2 The Sub-Committee also recalled that PPR 5, having considered documents MEPC 71/4/14 and PPR 5/INF.6 (Netherlands), had agreed not to add the Flow Cytometry Method (FCM) and the Pulse Amplitude Modulation Chlorophyll Fluorometry Method (PAM) in BWM.2/Circ.61 at that stage and had invited the delegation of the Netherlands to submit information on the validation of those two methods as one combined method, addressing also the concerns expressed in the Working Group on Ballast Water Management and Anti-fouling Systems.

5.3 The Sub-Committee considered documents PPR 6/5 and PPR 6/INF.22 (Netherlands) on analytical methods for enumerating organisms in the 10 to 50 µm size class, proposing also that the target completion year for output 1.15 (Revised guidance on methodologies that may be used for enumerating viable organisms) should be changed to "Continuous". In this regard, the Sub-Committee agreed that continuous items should be discouraged, in accordance with the document on *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.1, paragraph 4.33.6).

5.4 In light of the above, the Sub-Committee invited MEPC 74 to extend the target completion year for output 1.15 to 2021.

5.5 In this context, the Sub-Committee also invited the delegation of the Netherlands to submit information on the validation of FCM, addressing also the concerns expressed at PPR 5, to a future session of the Sub-Committee.

5.6 The Sub-Committee noted the information contained in document PPR 6/INF.23 (Denmark) providing updated information on a method for analysis of live organisms in ballast water by automatic detection of organisms that are motile and/or organisms containing chlorophyll (MFA; Motility and Fluorescence Assay).

6 AMENDMENT OF ANNEX 1 TO THE AFS CONVENTION TO INCLUDE CONTROLS ON CYBUTRYNE, AND CONSEQUENTIAL REVISION OF RELEVANT GUIDELINES

6.1 The Sub-Committee noted that the AFS Convention had entered into force on 17 September 2008 and that the number of Contracting Governments was currently 83, representing 95.95% of the world's merchant fleet tonnage.

6.2 The Sub-Committee recalled that PPR 5 had agreed that the initial proposal to amend Annex 1 to the AFS Convention to include controls on cybutryne, as submitted in documents PPR 5/19 and PPR 5/INF.9 (Austria et al.), satisfied the requirements of Annex 2 to the AFS Convention, and that a more detailed review of cybutryne was warranted.

6.3 The Sub-Committee recalled also that MEPC 73 had agreed to:

- .1 rename output 2.19 to "Amendment of Annex 1 to the AFS Convention to include controls on cybutryne, and consequential revision of relevant guidelines";
- .2 extend the target completion year to 2020;
- .3 forward document MEPC 73/INF.10 to this session; and
- .4 invite the submission, to this session, of a comprehensive proposal to amend Annex 1 to the AFS Convention to include controls on cybutryne, containing all the information required in Annex 3 to the AFS Convention and taking also into account the concerns expressed at PPR 5.

6.4 The Sub-Committee had for its consideration documents PPR 6/6, PPR 6/INF.7 and MEPC 73/INF.10 (Austria et al.), containing a comprehensive proposal to amend Annex 1 to the AFS Convention and relevant supplementary information.

6.5 In the ensuing discussion, all delegations that spoke expressed support for the consideration of the comprehensive proposal in a technical group. The delegation of Japan,

whilst supporting the need for control measures on cybutryne, expressed concern that, if appropriate sealer coats for existing anti-fouling systems containing cybutryne could not become available in time before the entry into force of controls on cybutryne, the removal of such anti-fouling systems through blasting would remain as the only option, which would not be desirable due to perceived air pollution caused during the blasting process.

6.6 The Sub-Committee referred documents PPR 6/6, PPR 6/INF.7 and MEPC 73/INF.10 to the Technical Group on Amendments to the AFS Convention for further consideration and a recommendation on the way forward.

Establishment of the Technical Group on Amendments to the AFS Convention

6.7 The Sub-Committee established the Technical Group on Amendments to the AFS Convention and instructed it, taking into account comments and decisions made in plenary, to:

- .1 review the comprehensive proposal to amend Annex 1 to the AFS Convention to include controls on cybutryne, contained in documents PPR 6/6 and PPR 6/INF.7; and
- .2 provide a recommendation on whether international controls pursuant to the AFS Convention are warranted for cybutryne and on specific control measures which it believes to be more suitable.

Report of the Technical Group

6.8 Having considered the report of the Technical Group (PPR 6/WP.4), the Sub-Committee approved the report in general and took action as described in the following paragraphs.

6.9 The Sub-Committee noted that it was a requirement of the AFS Convention, in accordance with article 6(5), that the Technical Group's report be circulated to the Parties, Members of the Organization, the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization and non-governmental organizations in consultative status with the Organization, prior to its consideration by the Committee. The Sub-Committee agreed that this requirement could be satisfied by attaching the Group's report as an annex to the final report of the Sub-Committee, and instructed the Secretariat to do so when preparing the final report. The Group's report is set out in annex 8.

6.10 Noting the Group's view that a standard approach to risk assessment would be desirable for the future evaluation of anti-fouling substances and might be proposed as a separate work item, the Sub-Committee invited relevant proposals to a future session of MEPC.

Amendment to Annex 1 to the AFS Convention

6.11 The Sub-Committee agreed to the draft amendment to Annex 1 (Controls on anti-fouling systems) to the AFS Convention to include controls on cybutryne, set out in annex 1 to annex 8, for consideration by MEPC 74, with a view to approval.

6.12 The Sub-Committee encouraged Member States to conduct baseline studies prior to the entry into force of controls on cybutryne, in order to allow the subsequent determination of the effectiveness of the controls.

6.13 The delegation of Japan, supported by the observer from ICS, whilst supporting the proposed controls on cybutryne, reiterated its concerns regarding options for existing ships with anti-fouling systems containing cybutryne (see paragraph 6.5) and expressed the view that this matter should be further considered at MEPC 74. The full text of the statement made by the delegation of Japan is set out in annex 22.

Amendment to the model form of the International Anti-fouling System Certificate

6.14 The Sub-Committee agreed to the draft amendment to the model form of the International Anti-fouling System Certificate (IAFSC), set out in annex 2 to annex 8, for consideration by MEPC 74, with a view to approval.

6.15 Following an intervention by the observer from IACS regarding the timing of the issuance of new Certificates following the entry into force of controls on cybutryne and of the amended form of the IAFSC, the Sub-Committee noted that, in accordance with regulation 2(3) of Annex 4 to the AFS Convention, for ships bearing an anti-fouling system controlled under Annex 1 that was applied before the date of entry into force of a control for such a system, the Administration shall issue a Certificate not later than two years after entry into force of that control, and agreed that this matter should be further considered at MEPC 74.

Consequential revision of relevant guidelines

6.16 The Sub-Committee invited proposals to PPR 7 on amendments to the Guidelines for brief sampling, survey and certification, and inspection of anti-fouling systems on ships (resolutions MEPC.104(49), MEPC.195(61) and MEPC.208(62), respectively), taking into account the issues raised by the Group at this session.

6.17 In addition, the Sub-Committee invited MEPC 74 to request the governing bodies of the London Convention and Protocol, at their next meeting, to consider a revision of the *Revised guidance on best management practices for removal of anti-fouling coatings from ships, including TBT hull paints* (LC-LP.1/Circ.31/Rev.1), in light of the introduction of controls on cybutryne under the AFS Convention, with a view to updating the guidance contained in AFS.3/Circ.3/Rev.1.

6.18 The Sub-Committee also invited MEPC 74 to note the need to consider an update to the list of items to be listed in the Inventory of Hazardous Materials under the Hong Kong Convention to include cybutryne when the respective controls enter into force.

7 CONSIDERATION OF THE IMPACT ON THE ARCTIC OF EMISSIONS OF BLACK CARBON FROM INTERNATIONAL SHIPPING

7.1 The Sub-Committee recalled that the work plan for consideration of the impact on the Arctic of emissions of Black Carbon from international shipping, as set out in document MEPC 62/24 (paragraph 4.20), entailed the following steps:

- .1 develop a definition for Black Carbon emissions from international shipping;
- .2 consider measurement methods for Black Carbon and identify the most appropriate method for measuring Black Carbon emissions from international shipping; and
- .3 investigate appropriate control measures to reduce the impact of Black Carbon emissions from international shipping.

7.2 The Sub-Committee also recalled that MEPC 71 had agreed to extend the target completion year for this output to 2019 and that PPR 4 had noted a timeline developed by the Working Group on Prevention of Air Pollution from Ships to finalize the work plan agreed by MEPC 62 by 2019, having recognized that it would be subject to further review as the work progressed (PPR 4/21, paragraph 9.18).

7.3 The Sub-Committee further recalled that, in accordance with the above-mentioned timeline, MEPC 68 had approved the definition for Black Carbon emissions from international shipping (MEPC 68/21, paragraph 3.26), and PPR 5 had:

- .1 agreed to the Reporting protocol for voluntary measurement studies to collect Black Carbon data (PPR 5/24, paragraph 7.16 and annex 6); and
- .2 identified the three most appropriate Black Carbon measurement methods for data collection (PPR 5/24, paragraph 7.18).

7.4 The Sub-Committee also recalled that PPR 5 had established the Correspondence Group on Investigation of Appropriate Control Measures to Reduce the Impact on the Arctic of Black Carbon Emissions from International Shipping, under the coordination of Canada, and had instructed it to identify candidate control measures to reduce the impact on the Arctic of Black Carbon emissions from international shipping and assess their feasibility, safety, availability and effectiveness, with a view to finalization of the investigation of appropriate control measures at PPR 6 (PPR 5/24, paragraph 7.13).

Report of the Correspondence Group and related submissions

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

- .1 PPR 6/7 (Canada), providing the report of the Correspondence Group on Investigation of Appropriate Control Measures to Reduce the Impact on the Arctic of Black Carbon Emissions from International Shipping, providing in annex 2 a list of 41 candidate control measures classified as follows: fuel type, fuel treatment, exhaust gas treatment, engine and propulsion system design, ship design, operational measures, regulatory measures and other measures; and a summary of the comments made during the discussions;
- .2 PPR 6/7/1 (Canada), expressing the view that the investigation of appropriate control measures has been completed; proposing that the Sub-Committee signal completion of this Black Carbon work item to the Committee, along with a supporting recommendation; and identifying areas where further work may be required in the future;
- .3 PPR 6/7/2 (Finland), providing its findings of the evaluation of the control measures of Black Carbon emissions from marine diesel engines based on the results obtained using the three most appropriate measurement methods identified by PPR 5; and containing a shortlist of 10 appropriate control measures, with 3 achieving Black Carbon-free (or almost Black Carbon-free) shipping, 4 providing substantial reductions of Black Carbon emissions and 3 achieving modest or low reductions of Black Carbon emissions; and
- .4 PPR 6/7/3 (Pacific Environment and CSC), commenting on document PPR 6/7; expressing the co-sponsors' view on appropriate control measures to reduce the impact on the Arctic of Black Carbon emissions from international shipping; and urging the Sub-Committee to prioritize the

identification of control measures that can immediately reduce the impact on the Arctic of Black Carbon emissions from international shipping, supporting in particular a switch from residual fuels to distillate fuels.

- 7.6 The Sub-Committee noted the information provided in the following documents:
- .1 PPR 6/INF.6 (Canada), containing the comments received, disposition and working documents of the Correspondence Group on Investigation of Appropriate Control Measures to Reduce the Impact on the Arctic of Black Carbon Emissions from International Shipping, in particular the comprehensive listing of participants' inputs related to the effectiveness, feasibility, safety and availability of identified Black Carbon control measures;
 - .2 PPR 6/INF.11 (Canada et al.), summarizing the outcomes of the fifth International Council on Clean Transportation (ICCT) technical workshop on marine Black Carbon emissions, held in September 2018, which focused on identifying appropriate Black Carbon control measures for international shipping and identified 13 appropriate measures in the following categories: fuel type, exhaust gas treatment, engine and propulsion system design, and other measures;
 - .3 PPR 6/INF.12 (Canada), providing details of an emissions characterization measurement campaign to evaluate the effect of fuel switching from diesel to LNG on the Black Carbon emission factors (mg/kWh) of an in-use commercial ferry operated in Vancouver;
 - .4 PPR 6/INF.13 (Canada and Denmark) providing details of a Black Carbon measurement campaign to evaluate the effect on Black Carbon emissions of selective catalytic reduction (SCR), exhaust gas cleaning (EGC) and sulphur limit solutions such as switching to marine gas oil (MGO), using heavy fuel oil (HFO) with EGC and using a mixed fuel such that its sulphur content is approximately 0.50% m/m; and pointing out an urgent need for further studies to assess the effect of blended 0.50% sulphur fuels on Black Carbon and other emissions;
 - .5 PPR 6/INF.14 (Canada and Denmark), providing details of a joint Black Carbon measurement campaign to evaluate the effect of Exhaust Gas Recirculation (EGR) on Black Carbon emissions, using FSN, LII and TOA methods, and the effect of sampling conditions (organic content) on Black Carbon measurements, for diesel oil (DO) and HFO; and highlighting the need for a standardized sampling and measurement method for accurate measurements of Black Carbon in the marine sector;
 - .6 PPR 6/INF.15 (Finland), describing in detail the results of the evaluation presented in document PPR 6/7/2 and their interpretation; and
 - .7 PPR 6/INF.18 (CSC), summarizing the findings of a new review of the issues surrounding the regulation of Black Carbon emissions from ships; and describing, among other things, the effectiveness, practicality and desirability of a shift from HFO to distillate fuels.

7.7 In the ensuing discussion, the following comments were, inter alia, made:

- .1 the list of 41 control measures identified by the Correspondence Group was comprehensive and robust, therefore the Sub-Committee should inform the Committee that the investigation of appropriate control measures was completed and forward this list to the Committee along with the supporting guidance proposed by Canada in paragraph 10 of document PPR 6/7/1;
- .2 the report of the Correspondence Group clearly indicated that a great number of potential technologies could address Black Carbon emissions and that substantial information had been collected on their effectiveness, feasibility, safety and availability; the task for the Sub-Committee was not to find a single "most" appropriate control measure as several options could be used for the shipping industry to achieve the goal of reduction of Black Carbon emissions; future regulation for Black Carbon reduction regulation should be technology-neutral to promote innovation and further research and development;
- .3 the Sub-Committee should prioritize the identified measures in order to facilitate their consideration by the Committee; given the urgent need to address Black Carbon emissions, a rapid shift from HFO to distillate fuels would be a readily implementable control measure and should be recommended to the Committee, as distillate fuels could reduce fleet-wide Black Carbon emissions by 33% compared to residual fuels, and if used together with diesel particulate filters, more than 90% reduction could be achieved;
- .4 although the Correspondence Group identified a number of appropriate Black Carbon control methods, whether or not these methods were suitable for a particular engine would be subject to a number of variables; any assessment of their effectiveness should be qualified by stating limiting conditions and the influence of other factors including engine design, fuel type and engine load; switching fuel from HFO to distillate could not be recommended as in some cases this could actually result in higher emissions;
- .5 due to interconnections between fuel quality and available reduction options of Black Carbon emissions from ships, further improvement of the quality of marine diesel fuels would be a prerequisite to apply some of the identified candidate Black Carbon control measures; and
- .6 Black Carbon was defined by Bond et al., as a particular sub-species of particulate matter (PM) and it would be important to maintain the distinction between the two terms; in developing potential future regulation, IMO should remain vigilant on the impact of Black Carbon control measures on other particulate matter emissions.

7.8 Following discussion, the Sub-Committee agreed that it had completed the work with respect to all the terms of reference given by MEPC 62 and consequently invited the Committee to provide instruction on further work on the reduction of the impact on the Arctic of Black Carbon emissions from international shipping, taking into account:

- .1 the approval of the Bond et al., definition as the definition of Black Carbon for international shipping (MEPC 68/21, paragraph 3.26);

- .2 the agreed *Reporting protocol for voluntary measurement studies to collect black carbon data* (PPR 5/24, paragraph 7.16 and annex 6);
- .3 the identified most appropriate Black Carbon measurement methods for data collection as Filter Smoke Number (FSN), Photo Acoustic Spectroscopy (PAS) and Laser Induced Incandescence (LII) (PPR 5/24, paragraph 7.18);
- .4 the simplified compilation of identified candidate control measures to reduce the impact on the Arctic of Black Carbon emissions from international shipping, as set out in annex 9; and
- .5 the supporting guidance identifying areas where further work may be required in the future, as proposed by the delegation of Canada and reproduced below:

"The recommendation that the investigation of appropriate control measures is complete, and the remit satisfied, has been made recognizing that further work may be required before any of the recommended Black Carbon measurement methods (FSN, PAS, LII) could be used to regulate or otherwise directly control Black Carbon emissions from marine engines or ships. A standardized sampling, conditioning and measurement protocol, including a traceable reference method and an uncertainty analysis, is required to make accurate and traceable (comparable) measurements of Black Carbon emissions. This measurement system should not preclude consideration and agreement on policy options to avoid or otherwise limit Black Carbon emissions from ships, as its development would in fact benefit from guidance on how possible regulations would be applied."

Completion of the work on the output

7.9 In view of the above, the Sub-Committee invited MEPC 74 to note that the work on this output had been completed.

8 CONSISTENT IMPLEMENTATION OF REGULATION 14.1.3 OF MARPOL ANNEX VI

8.1 The Sub-Committee recalled that MEPC 72, having considered the recommendation by PPR 5, had authorized the Intersessional Meeting on Consistent implementation of regulation 14.1.3 of MARPOL Annex VI (ISWG-AP 1) (hereafter the Intersessional Meeting) to report its outcome concerning the development of guidance on ship implementation planning for 2020 to MEPC 73 for consideration.

OUTCOME OF THE INTERSESSIONAL MEETING ON CONSISTENT IMPLEMENTATION OF REGULATION 14.1.3 OF MARPOL ANNEX VI

8.2 The Sub-Committee considered document PPR 6/8 (Secretariat) providing the report of the Intersessional Meeting, which had been held from 9 to 13 July 2018, and took actions as described in paragraphs 8.3 to 8.42.

Guidance on the development of a ship implementation plan for the consistent implementation of the 0.5% sulphur limit under MARPOL Annex VI

8.3 The Sub-Committee noted that the Intersessional Meeting had completed its work on the draft MEPC circular on *Guidance on the development of a ship implementation plan for the consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI*, which had been approved by MEPC 73 as MEPC.1/Circ.878.

8.4 The Sub-Committee further noted that, in approving the above-mentioned MEPC circular, the Committee had agreed:

- .1 that a reference to a "practical and pragmatic approach by port State control authorities" should not be included in the MEPC circular; and
- .2 to delete the draft provision on the validity of the Guidance as some information contained in the Guidance would remain relevant after the entry into effect of the 0.50% sulphur limit.

8.5 The Sub-Committee also noted that MEPC 73, having recognized the importance of consistent implementation of enforcement measures, had noted that PPR 6 would further consider the matter during its finalization of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI. Consequently, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to further consider section 3.2 of the draft Guidelines, with a view to enhancing relevant guidance on consistent implementation of enforcement measures.

Draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI

8.6 The Sub-Committee, having noted the progress made during the Intersessional Meeting on the development of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI, considered the relevant outstanding issues as described in paragraphs 8.7 to 8.30.

Safety implications associated with the use of low-sulphur fuel oil

8.7 The Sub-Committee noted that the Intersessional Meeting had agreed to recommend to MEPC 73 to invite MSC 100 to consider the outcome of the meeting concerning the safety implications associated with the use of low-sulphur fuel oil and take action as appropriate, noting the initiative of industry organizations to develop industry guidance and possibly training material.

8.8 The Sub-Committee also noted that at the request of MEPC 73, MSC 100 had considered the outcome of the Intersessional Meeting concerning the safety implications associated with the use of low-sulphur fuel oil, together with a number of commenting documents and had agreed:

- .1 to include in its biennial agenda an output on "Development of further measures to enhance the safety of ships relating to the use of fuel oil", with a target completion year of 2021;
- .2 that the proposed bunker supplier licensing schemes should be addressed by MEPC;

- .3 to instruct PPR 6 to develop a joint MSC-MEPC circular addressing the delivery of compliant fuels by suppliers, with a view to approval by MEPC 74 and MSC 101; and
- .4 to forward document MSC 100/8/2 (Bahamas et al.) to PPR 6 for further consideration, with a view to reporting the outcome to MSC 101 (5 to 14 June 2019).

8.9 In this context, the delegation of the Cook Islands stated that the SOLAS minimum flashpoint requirement was the absolute limit for the variability of low-sulphur fuels.

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

- .1 PPR 6/8/5 (OCIMF et al.), providing an update on the progress of a joint industry initiative to develop a guidance document, and possibly training materials, for all relevant stakeholders on potential safety and operational issues related to the supply and use of fuel oils with a 0.50% sulphur limit;
- .2 PPR 6/8/8 (INTERTANKO and INTERCARGO), stressing fuel oil sampling and testing at supply side as an efficient measure to ensure that fuel supplied to ships is compliant and safe, and proposing amendments to section 3.3 of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI and to paragraph 4.2.2 of the draft guidance on best practice for Member States/coastal States (MEPC 73/5/3, annex) for inclusion of recommendations on the appropriate actions Member States can take to ensure that fuel suppliers under their jurisdiction deliver to ships fuel oil that is compliant with the statutory provisions; and
- .3 MSC 100/8/2 (Bahamas et al.), providing further technical information and a review of potential safety implications associated with the use of fuels compliant with the 0.50% m/m global fuel oil sulphur limit.

8.11 During the introduction of document PPR 6/8/5, the Sub-Committee noted that:

- .1 an initial draft of the guidance was substantially complete;
- .2 the experts of the joint industry initiative were working to ensure that the guidance would be released in the second half of 2019;
- .3 the timeline was designed to ensure incorporation of the relevant ISO Publicly Available Specifications (PAS) which was expected to be released in the second half of 2019; and
- .4 once published, and well before 1 January 2020, the guidance would be made available as a free-to-download information paper to the industry and would also be submitted as an information document to MEPC 75.

8.12 In addition to the general support for the joint industry guidance on potential safety and operational issues related to the supply and use of fuel oils with a maximum sulphur content of 0.50% m/m and the forthcoming relevant ISO PAS, the benefit of receiving more information as early as possible on the content of the guidance, including the specific text, even before its finalization was stressed by some delegations. One delegation requested that the respective responsibilities of bunker suppliers and users be clarified to the maximum possible extent in the joint industry guidance and some delegations commented that,

notwithstanding the efforts by industry to develop guidance, the safety implications of low-sulphur fuel oils should be discussed in detail at the Sub-Committee, MEPC and MSC to ensure that all concerns related to safety were addressed and clearly identified, including the impact on fuel and machinery systems.

8.13 The Sub-Committee expressed its support and appreciation for the joint industry initiative and noted the progress made in the development of the joint industry guidance as well as the importance of such guidance. The Sub-Committee also encouraged the members of the joint industry initiative to publish the guidance as early as possible and disseminate it broadly.

8.14 Furthermore, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to consider the need for adding a general reference to industry guidance in section 5 of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI.

8.15 Having considered document MSC 100/8/2, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to:

- .1 further consider document MSC 100/8/2 and advise the Sub-Committee accordingly; and
- .2 take into account the information contained in document MSC 100/8/2 as it might be relevant for developing guidance under section 5 of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI.

8.16 In considering document PPR 6/8/8, the Sub-Committee noted that several delegations supported inclusion of the proposed amendments to section 3.3 of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI whereby designated competent authorities should sample and test fuels before they were delivered to ships, as this would reduce the risk of providing non-compliant fuel to ships. A number of other delegations highlighted that systematic fuel oil sampling and testing would lead to a significant administrative burden for the designated competent authorities. The following views, inter alia, were also expressed:

- .1 while testing the fuel oil on the shoreside to ensure its quality was beneficial, the sampling and testing required considerable time, resources and cost both to the designated competent authorities and suppliers and, therefore, some adjustments to the proposals were needed to ensure that it was left to the discretion of the designated competent authority whether, how and in what circumstances such sampling and testing should be conducted;
- .2 rather than a systematic approach, a holistic approach of increasing national and international provisions to ensure the integrity of the fuel supply chain should be supported, and the guidance for fuel oil suppliers could provide the appropriate framework;
- .3 random and frequent testing of bunker fuel oil held in shore tanks was a practical and pragmatic means of ensuring only compliant fuel oil was delivered to ships;

- .4 the issue of provision of "advanced information on the source fuel oil supply company" to the designated competent authority should be further clarified, as such information might not be available for the ship to provide in all cases;
- .5 fuel supplied to ships was tested in the supply chain, but spot checks when there was cause for concern could be a route to be followed;
- .6 the proposal in document PPR 6/8/8 stated that testing could be carried out on an ad hoc basis or as often as a designated authority might deem to require and, therefore, provided discretion to the designated authority; and
- .7 while caution should be exercised to avoid creating administrative burdens, the Working Group on Prevention of Air Pollution from Ships should further consider the matter of sampling and testing of fuel oil before it was delivered to ships and endeavour to develop appropriate guidance within the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI.

8.17 Having noted the considerable support for the proposals in document PPR 6/8/8, as well as the comments made in relation to the proposals, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to:

- .1 further consider the proposed amendments in document PPR 6/8/8 with a view to including them in section 3.3 of the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI, taking into account the issue of administrative burden, and take action as appropriate; and
- .2 further consider the proposed amendments to paragraph 4.2.2 of draft Guidance for Member States/coastal States and advise the Sub-Committee accordingly.

8.18 Having recalled the instruction by MSC 100 to develop a joint MSC-MEPC circular addressing the delivery of compliant fuels by suppliers, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to prepare such a draft circular.

Disposal of remaining non-compliant fuel on board

8.19 The Sub-Committee noted that the Intersessional Meeting had expressed a need for further guidance on the issue of disposal of remaining non-compliant fuel on board.

8.20 In this context, the Sub-Committee had for its consideration the following documents:

- .1 PPR 6/8/4 (Brazil et al.), providing two possible options for the disposal of remaining non-compliant fuel oil taken on board in compliant fuel oil non-availability scenario with FONAR; and
- .2 PPR 6/8/10 (INTERTANKO), expressing the view that guidance should be provided on actions ships should take in case they have to use residual fuel and contaminate part of their storage bunker tanks and settling tanks, and proposing that after the residual fuel is completely used/discharged, ships should be allowed to clean and flush remaining residues through dilution with compliant fuels that have the lowest sulphur content available.

8.21 The Sub-Committee agreed that the draft Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI should provide guidance on the issue of disposal of remaining non-compliant fuel oil on board, as appropriate, and consequently instructed the Working Group on Prevention of Air Pollution from Ships to further develop such guidance, taking into consideration the proposals in documents PPR 6/8/4 and PPR 6/8/10.

Draft Fuel Oil Non-Availability Report

8.22 The Sub-Committee noted that the Intersessional Meeting had developed a draft pro forma for a Fuel Oil Non-Availability Report (FONAR), as set out in the appendix to annex 2 to document PPR 6/8.

8.23 In this context, the Sub-Committee had for its consideration document PPR 6/8/2 (Australia et al.), providing a proposed template for reporting of compliant fuel oil non-availability covering more detailed information and additional items, such as entry and exit times to particular countries and a record of previous FONARs.

8.24 In the ensuing discussion, the Sub-Committee noted support for the proposed template in document PPR 6/8/2 to be used as a basis for further consideration in the Working Group on Prevention of Air Pollution from Ships, in conjunction with the draft pro forma for a FONAR in document PPR 6/8, with a view to finalization.

8.25 The delegation of Hong Kong, China, supported by the delegation of the Cook Islands, proposed that the format of the FONAR and the existing reports made on the GISIS MARPOL Annex VI module should be harmonized.

8.26 In this context, the delegation of Norway expressed the view that the respective roles of the flag Administration and the port State authorities with regard to Party notifications to the Organization should be clarified in order to avoid duplication of reporting of FONARs. In this regard, the Sub-Committee recalled that MEPC 73 had invited further concrete proposals to MEPC 74 on how to enhance the implementation of regulation 18 of MARPOL Annex VI, in particular on fuel oil quality and reporting of non-availability of compliant fuel oils (MEPC 73/19, paragraph 5.33).

8.27 Subsequently, the Sub-Committee agreed to instruct the Working Group on Prevention of Air Pollution from Ships to consider the proposed draft FONAR set out in the annex to document PPR 6/8/2 as the base text with a view to inclusion in the draft Guidelines for consistent implementation of regulation 14.1.3 of MARPOL Annex VI.

Consistency in testing of sulphur content

8.28 The Sub-Committee had for its consideration document PPR 6/8/6 (India et al.), proposing amendments to the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI with a view to promoting a uniform testing, verification and reporting procedure for in-use fuel oil samples.

8.29 Following consideration, the Sub-Committee agreed, in principle, to the additions to the draft Guidelines for Consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI proposed in document PPR 6/8/6 and instructed the Working Group on Prevention of Air Pollution from Ships to amend the draft Guidelines accordingly.

8.30 The Sub-Committee also noted that the proposal in document PPR 6/8/6 could also be relevant to the revision of the 2009 PSC Guidelines.

Draft amendments to MARPOL Annex VI

8.31 The Sub-Committee noted that the Intersessional Meeting had developed draft amendments to MARPOL Annex VI, as set out in annex 3 to document PPR 6/8, which included amendments to:

- .1 regulation 2 on definitions of "sulphur content" and "low-flashpoint fuel";
- .2 regulation 14 and the Supplement to the IAPP Certificate concerning fuel oil sampling point; and
- .3 appendix VI on Fuel verification procedure for MARPOL Annex VI fuel oil samples.

8.32 In this context, the Sub-Committee had for its consideration the following documents:

- .1 PPR 6/8/1 (IMarEST), proposing further modifications to the draft amendments to appendix VI of MARPOL Annex VI on Fuel verification procedure for MARPOL Annex VI fuel oil samples; and
- .2 PPR 6/8/11 (ICS et al.), commenting on the draft definition of "sulphur content" and the draft amendments to appendix VI of MARPOL Annex VI concerning fuel oil sampling and testing and verification procedures for a MARPOL Annex VI fuel oil sample, and highlighting the need to finalize the draft provisions at this session.

8.33 In the ensuing discussion, the observer from IACS stated that, upon finalization of the draft amendments to regulation 14 of MARPOL Annex VI, consequential amendments to regulation 1 of MARPOL Annex VI might be required in order to include regulation 14 in the list of regulations that expressly provide exemptions to the application of the provisions of MARPOL Annex VI. The Sub-Committee noted that the Working Group could consider this further.

8.34 Subsequently, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to finalize draft amendments to regulations 2 and 14 and appendices I and VI of MARPOL Annex VI, using annex 3 to document PPR 6/8 as a basis and taking into account documents PPR 6/8/1 and 6/8/11.

Draft amendments to the 2009 Guidelines for port State control under the revised MARPOL Annex VI

8.35 The Sub-Committee noted the progress made by the Intersessional Meeting on the development of draft amendments to the *2009 Guidelines for port State control under the revised MARPOL Annex VI* (resolution MEPC.181(59)) (hereafter 2009 PSC Guidelines).

8.36 In this context, the Sub-Committee noted that:

- .1 MEPC 73 had instructed PPR 6 to clarify the matter of the carriage ban on non-compliant fuel oil being not applicable when an alternative arrangement approved under regulation 4.1 of MARPOL Annex VI was used on board a ship as part of its ongoing work in updating the 2009 PSC Guidelines for port State control under the revised MARPOL Annex VI (resolution MEPC.181(59));

- .2 MEPC 73 had approved, in principle, the draft amendments to the 2009 PSC Guidelines concerning the use of electronic record books under MARPOL, as set out in annex 16 to document PPR 5/24, with a view to adoption at a future session in conjunction with other amendments to the 2009 Guidelines being developed by the PPR Sub-Committee;
- .3 III 5 had invited PPR 6 to undertake a technical review of the draft amendments to the 2009 Guidelines, as prepared by III 5 and set out in the annex to document PPR 6/2/2, in conjunction with the draft amendments to the 2009 PSC Guidelines being developed by the Sub-Committee; and
- .4 draft amendments to the 2009 PSC Guidelines related to exhaust gas cleaning systems, set out in document PPR 6/11/Add.1, would be considered under agenda item 11.

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

- .1 PPR 6/8/7 (Jamaica, et al.), expressing concerns with the sulphur content verification process for the MARPOL sample, and suggesting that the issues could be addressed in the 2009 PSC Guidelines by providing guidance on action to take when it cannot be established with greater than 95% confidence, in accordance with the principles of ISO 4259 that fuel oil supplied, used or held in a ship's tank is not compliant; and
- .2 PPR 6/8/9 (INTERTANKO), addressing the situation where ships purchased fuel oils showing compliance by information on the Bunker Delivery Note (BDN) but may be later indicated as being non-compliant by test results on fuel oil samples taken during bunkering, and proposing amendments to paragraph 2.3.2.4 of the 2009 PSC Guidelines to clarify such situations.

8.38 The Sub-Committee noted that document PPR 6/8/7 did not receive sufficient support.

8.39 With regard to document PPR 6/8/9, the Sub-Committee agreed to refer it to the Working Group for further consideration.

8.40 Subsequently, the Sub-Committee instructed the Working Group on Prevention of Air Pollution from Ships to undertake a technical review of the draft amendments to the 2009 PSC Guidelines and consolidate the draft amendments with those prepared by III 5. The Sub-Committee further agreed that the review should:

- .1 clarify the matter of the carriage ban on non-compliant fuel oil being not applicable when an equivalent means of compliance approved under regulation 4.1 of MARPOL Annex VI is used on board a ship, as instructed by MEPC 73; and
- .2 consider and, as appropriate, prepare a draft reference to the fuel sample taken during bunkering indicating possible non-compliance, as proposed in document PPR 6/8/9.

Amendments to the 2010 Guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships

8.41 The Sub-Committee noted that the Intersessional Meeting had agreed not to develop amendments to the *2010 Guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships* (resolution MEPC.192(61), as amended by resolution MEPC.273(69)) due to no relevant documents having been submitted. Having noted that no documents had been submitted on the matter at this session either, the Sub-Committee decided not to consider the issue further.

Draft amendments to the Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships (MEPC.1/Circ.864)

8.42 The Sub-Committee noted the progress made on the development of draft amendments to the *Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC.1/Circ.864) and instructed the Working Group on Prevention of Air Pollution from Ships to finalize the draft amendments.

FUEL OIL USED FOR EMERGENCY EQUIPMENT

8.43 The Sub-Committee considered PPR 6/8/3 (Republic of Korea) providing its considerations as to whether or not the prohibition on the carriage of non-compliant fuel oil on board a ship pursuant to the amended regulation 14.1 of MARPOL Annex VI adopted at MEPC 73 should apply to emergency equipment on board a ship.

8.44 In this context, the Sub-Committee recalled that regulation 3.1.1 of MARPOL Annex VI read as follows:

- "1 Regulations of this Annex shall not apply to:
- .1 any emission necessary for the purpose of securing the safety of a ship or saving a life at sea".

8.45 In the ensuing discussion, the following comments were, inter alia, made:

- .1 the proposal for a clarification should be supported, in principle;
- .2 the safety fuel reserve kept on board the ship should fall under the provisions of regulation 3.1.1 exempting any emission necessary for the purpose of securing the safety of a ship or saving life at sea and document PPR 6/8/3 should be further considered in this context;
- .3 the proposal should be considered by MSC and not the PPR Sub-Committee as it touched upon the operation of emergency and life-saving appliances;
- .4 the issue should be forwarded to the Working Group, taking into account the discussion related to potential safety implications associated with the use of low-sulphur fuel oil; and
- .5 while regulation 3.1.1 was normally seen to apply only to emergency actions to save the ship, its application was subject to the interpretation made by the Administration; therefore document PPR 6/8/3 should be forwarded to the Working Group with a view to developing a unified interpretation.

8.46 Following consideration, the Sub-Committee agreed to instruct the Working Group on Prevention of Air Pollution from Ships to further consider document PPR 6/8/3 and advise the Sub-Committee, as appropriate, including if necessary, the preparation of a draft unified interpretation to regulation 3.1.1 or 14.1 of MARPOL Annex VI.

ESTABLISHMENT OF THE WORKING GROUP ON PREVENTION OF AIR POLLUTION FROM SHIPS

8.47 The Sub-Committee established the Working Group on Prevention of Air Pollution from Ships and instructed it, taking into consideration the comments and decisions made in plenary, to:

- .1 review document MSC 100/8/2, taking into account document PPR 6/8/5, and advise the Sub-Committee accordingly;
- .2 finalize the draft Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI using annex 2 of document PPR 6/8 as a basis, taking into account documents PPR 6/8/2, PPR 6/8/4, PPR 6/8/6, PPR 6/8/8, PPR 6/8/10 and MSC 100/8/2, including further consideration of the consistent implementation of enforcement measures (paragraph 3.2 of the draft Guidelines);
- .3 finalize draft amendments to regulations 2 and 14 and appendices I and VI of MARPOL Annex VI using annex 3 to document PPR 6/8 as a basis, taking into account documents PPR 6/8/1 and 6/8/11;
- .4 finalize draft amendments to the *2009 Guidelines for port State control under the revised MARPOL Annex VI* (resolution MEPC.181(59)), using annex 4 of document PPR 6/8 as a basis, taking into account documents PPR 6/2/2, PPR 6/8/6, PPR 6/8/9 and PPR 6/11/Add.1, as well as the draft amendments concerning electronic record books set out in annex 16 to document PPR 5/24;
- .5 finalize draft amendments to the *Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC.1/Circ.864), using annex 5 to document PPR 6/8 as a basis;
- .6 prepare a draft joint MSC-MEPC circular addressing the delivery of compliant fuels by suppliers; and
- .7 further consider document PPR 6/8/3 and advise the Sub-Committee, as appropriate, including if necessary the preparation of a draft unified interpretation to regulation 3.1.1 or 14.1 of MARPOL Annex VI.

REPORT OF THE WORKING GROUP ON PREVENTION OF AIR POLLUTION FROM SHIPS

8.48 Having considered the report of the Working Group on Prevention of Air Pollution from Ships (PPR 6/WP.5 and Add.1), the Sub-Committee approved the report in general and took action as described in paragraphs 8.49 to 8.77.

Draft amendments to MARPOL Annex VI

8.49 The Sub-Committee noted that to enable enforcement of the prohibition of carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship, an additional draft amendment to regulation 14.8 of MARPOL Annex VI for on board sampling of fuel oil not in use by the ship had been prepared by the Working Group and that guidelines to support effective and safe implementation would need to be prepared by the Organization before entry into force of the provision.

8.50 In this context, the Sub-Committee also noted an intervention by the observer from ICS stating the commitment of ICS to ensuring a level playing field for all ships when the 0.50% sulphur limit took effect on 1 January 2020; that drawing samples from fuel oil storage tanks required further careful consideration to ensure such sampling could be performed safely; and that the draft amendments containing the reference to on board fuel samples should not be finalized until appropriate supporting guidance had been prepared giving due regard to the safety of the crew and the ship.

8.51 As requested the full statement by the observer from ICS is set out in annex 22.

8.52 With regard to the term "MARPOL" in relation to fuel oil samples, the Sub-Committee noted an intervention by the delegation of Germany, supported by others, that all samples taken under MARPOL Annex VI should be considered as "MARPOL" samples and that as such the terminology in the proposed draft amendments should be consistent to avoid a hierarchy of samples or different legal status. Other delegations expressed the view that use of the term "MARPOL" in relation to in-use and on board samples was not appropriate and would cause confusion as the term "MARPOL" was associated with the sample taken at the time of bunkering and was well known within the industry. Following consideration, the Sub-Committee agreed not to include the term "MARPOL" with the definitions for "in-use sample" and "on board sample".

8.53 The Sub-Committee also noted an intervention by the delegation of Norway identifying that the term "MARPOL delivered sample" was not found in MARPOL Annex VI and rather the term used in regulation 18.8.2 of MARPOL Annex VI was "representative sample" and as such this terminology should be consistent. However, the Sub-Committee agreed not to amend the definition for "MARPOL delivered sample" as this had been considered by the Working Group.

8.54 Following an intervention by the observer from IACS, the Sub-Committee agreed to amend draft regulation 14.10 of MARPOL Annex VI to reflect the provision in regulation 13 of MARPOL Annex VI for timing of implementation of the requirement for existing ships.

8.55 The Sub-Committee noted an intervention by the observer from ICS and supported by the delegation of Liberia requesting the deletion of the term "as appropriate" from draft regulation 14.12 to avoid ambiguity on the use of the designated sampling point to take safe and consistent samples. In this regard, having noted that the Working Group had held an extensive discussion on the drafting of the provision, the Sub-Committee agreed not to amend the draft provision further.

8.56 Following consideration of consequential amendments to regulation 1 of MARPOL Annex VI, it was agreed to remove references to specific regulations in the provision.

8.57 The Sub-Committee noted an intervention by IPIECA concerning the proposed draft amendments to Appendix VI Verification procedures for a MARPOL Annex VI fuel oil sample (regulation 14.8 or regulation 18.8.2) which as drafted would result in the verification being

final after testing of the MARPOL delivered sample at a single laboratory and which IPIECA did not consider was the intention. As requested, the full statement by the observer from IPIECA is set out in annex 22.

8.58 Subsequently, the Sub-Committee agreed to the draft amendments to MARPOL Annex VI, as set out in annex 10, for approval at MEPC 74, with a view to adoption at MEPC 75.

Draft 2019 Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI

8.59 The Sub-Committee noted that, as instructed by MEPC 73, the consistent implementation of enforcement measures was considered and appropriate guidance incorporated in the draft *2019 Guidelines on port State control under MARPOL Annex VI* (see paragraph 8.76) to clarify the matter of the carriage ban on non-compliant fuel oil being not applicable when an equivalent means approved under regulation 4.1 of MARPOL Annex VI was used on board a ship.

8.60 The Sub-Committee noted the draft guidance for port State control on contingency measures for addressing non-compliant fuel oil, as set out in annex 11, and referred it to MEPC 74 for consideration in conjunction with possible concrete proposals for further development or alternative measures, with a view to finalization as a matter of urgency.

8.61 As requested, the full statement made by the delegation of the Marshall Islands on the draft interim guidance, and as provided to the Working Group, is set out in annex 22.

8.62 The Sub-Committee noted that regulation 18.2.4 of MARPOL Annex VI did not provide for the FONAR to be reported to the port that had not provided the compliant fuel oil contrary to regulation 18.1 of MARPOL Annex VI, and that the port reception facility module in GISIS might provide a model to address this issue.

8.63 The Sub-Committee also noted that the text in square brackets in paragraphs 3.3.14 and 3.3.1.4*bis* of the draft Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI should be kept for further consideration at MEPC 74 so that the work being undertaken on the joint industry guidance, as reported in document PPR 6/8/5, and the work being undertaken by ISO on a Publicly Available Specification could be taken into account.

8.64 The Sub-Committee further noted that the Working Group, based on its consideration of document MSC 100/8/2 and having taken into account the update provided in document PPR 6/8/5 with regard to the preparation of joint industry guidance on potential safety and operational issues related to the supply and use of fuel oil with a maximum sulphur content of 0.50% m/m, had developed section 6 (Possible safety implications relating to fuel oils meeting the 0.50% m/m sulphur limit) and the associated appendix 2 (Technical review of identified potential safety implications associated with the use of 2020 compliant fuels) of the draft Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI.

8.65 Subsequently, the Sub-Committee agreed to the draft 2019 Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI, and the associated draft MEPC resolution, as set out in annex 12, for submission to MEPC 74 with a view to adoption.

Draft amendments to the *Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships (MEPC.1/Circ.864)*

8.66 The Sub-Committee agreed to the draft MEPC circular on *2019 Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships*, as set out in annex 13, for submission to MEPC 74 with a view to approval.

Draft MSC-MEPC Circular on Delivery of compliant fuel oil by suppliers

8.67 The Sub-Committee noted an intervention by the Cook Islands that, whilst the Working Group had noted that currently it was not possible for competent authorities to enforce regulation 18.3 of MARPOL Annex VI, it was reasonable for Parties to take random and frequent samples for testing of fuel oil held in the shore tanks to ensure that fuel oil supplied to a ship was compliant when delivered to the ship, and that such a pragmatic and practical approach would address many of the concerns with fuel oil quality and smooth implementation being deliberated.

8.68 The Sub-Committee agreed to the draft MSC-MEPC circular on *Delivery of compliant fuel oil by suppliers*, as set out in annex 14, for approval at MEPC 74 and MSC 101.

Draft unified interpretation to regulation 14.1 of MARPOL Annex VI

8.69 The Sub-Committee agreed to the draft unified interpretation to regulation 14.1 of MARPOL Annex VI as set out in annex 18, for inclusion in a revision of MEPC.1/Circ.795/Rev.3, subject to the interpretation being approved by MEPC 74.

Draft amendments to the *2009 Guidelines for port State control under the revised MARPOL Annex VI (resolution MEPC.181(59))*

8.70 The Sub-Committee recalled that document PPR 6/8/7 had not been forwarded for further consideration to the Working Group and noted that the Group had focused on the proposed draft amendments set out in document PPR 6/2/2 with document PPR 6/8 as a base document.

8.71 The Sub-Committee noted that the draft amendments in document PPR 6/2/2 had been generally considered by the Working Group with proposed amendments relating to regulations 14 and 18 of MARPOL Annex VI being incorporated, but that amendments relating to regulations 13 and chapter 4 were not necessarily reflected. Additionally, having noted the discussion in plenary, the Working Group had also agreed to consider and incorporate proposed draft amendments set out in document PPR 6/11/Add.1 concerning exhaust gas cleaning systems.

8.72 The Sub-Committee noted an intervention by the delegation of India identifying a potential inconsistency between the draft *2019 Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI* and the draft *2019 Guidelines for port State control under MARPOL Annex VI* with regard to the application of the draft amendments to appendix VI of MARPOL Annex VI, and that the Secretariat would consider and seek to amend the draft text forwarded to MEPC 74, with a view to finalization and adoption.

8.73 The Sub-Committee, in noting the time pressures on the Working Group, agreed to instruct the Secretariat to make necessary amendments to the draft guidelines prepared during the session to ensure consistency in their interpretation and application.

8.74 The Sub-Committee noted that there might be other draft amendments identified by Member States and invited them to submit proposals to MEPC 74.

8.75 The Sub-Committee also noted an intervention by the observer from INTERTANKO, supported by the observer of INTERCARGO, reiterating their concerns identified in document PPR 6/8/9, whereby the ship found after sailing that fuel oil it had bunkered was non-compliant and, as such, a situation would not be addressed using a FONAR, there needed to be a way to handle the matter and that a solution was required. The Sub-Committee further noted that a proposal would be submitted to MEPC 74 to that effect.

8.76 Following consideration and having taken into account the need for the PSC Guidelines to be updated as soon as possible, the Sub-Committee agreed, in principle, to the draft 2019 Guidelines for port State control under MARPOL Annex VI and the associated draft MEPC resolution, as set out in annex 15, for further consideration at MEPC 74, with a view to finalization and subsequent adoption.

Extension of the target completion year

8.77 In view of the need to develop guidelines to support effective and safe implementation of on board sampling of fuel oil not in use by the ship, the Sub-Committee invited MEPC 74 to extend the target completion year for the output to 2020 and rename the output as "Development of guidelines for on board sampling of fuel oil not in-use by the ship".

9 AMENDMENTS TO REGULATION 14 OF MARPOL ANNEX VI TO REQUIRE A DEDICATED SAMPLING POINT FOR FUEL OIL

9.1 The Sub-Committee noted that no submissions had been made under this agenda item.

9.2 The Sub-Committee also recalled that the relevant action requested of it by the Intersessional Meeting on Consistent implementation of regulation 14.1.3 of MARPOL Annex VI (ISWG-AP 1) (PPR 6/8, paragraphs 76.11 and 76.12) and the parts of the report of the Working Group on Prevention of Air Pollution from Ships (PPR 6/WP.5, paragraphs 4 to 16, 23 and 32 and annexes 1, 3 and 5; and PPR 6/WP.5/Add.1) dealing with this agenda item had been considered under agenda item 8 (Consistent implementation of regulation 14.1.3 of MARPOL Annex VI) (see paragraphs 8.31 to 8.40, 8.42, 8.49 to 8.66 and 8.70 to 8.73 and annexes 10, 12, 13 and 15).

10 STANDARDS FOR SHIPBOARD GASIFICATION OF WASTE SYSTEMS AND ASSOCIATED AMENDMENTS TO REGULATION 16 OF MARPOL ANNEX VI

10.1 The Sub-Committee recalled that PPR 4, having considered draft standards for shipboard gasification waste to energy systems and associated draft amendments to regulation 16 of MARPOL Annex VI on shipboard incineration, had agreed that amendments to regulation 16 should not be confined to one specific technology in order to avoid continuous amendments when a new technology was used in the future.

10.2 The Sub-Committee also recalled that PPR 4 had established the Correspondence Group on Standards for Shipboard Gasification of Waste Systems and Associated Amendments to Regulation 16 of MARPOL Annex VI, under the coordination of Canada, and had instructed it to further develop generic draft standards for shipboard gasification of waste systems and associated amendments to regulation 16 of MARPOL Annex VI and the IAPP Certificate; and report to PPR 5.

10.3 The Sub-Committee further recalled that PPR 5 had re-established the Correspondence Group and instructed it to further develop generic draft standards for shipboard gasification of waste systems and associated amendments to regulation 16 of MARPOL Annex VI and the IAPP Certificate; and submit a final report to this session.

Report of the Correspondence Group

10.4 The Sub-Committee considered the report of the Correspondence Group on Standards for Shipboard Gasification of Waste Systems and Associated Amendments to Regulation 16 of MARPOL Annex VI (PPR 6/10 and PPR 6/INF.10) and noted that based on the comments received through three rounds of input, the Group had generally agreed that:

- .1 draft standards for shipboard gasification of waste systems should be generic and technology neutral;
- .2 amendments to regulation 16 of MARPOL Annex VI were not required as the regulation already accommodated alternative designs of shipboard thermal waste treatment devices; and
- .3 amendments to the IAPP Certificate were not necessary, as it contained specific reference to requirements under regulation 16.

Extension of the target completion year

10.5 Having noted that draft standards for shipboard gasification of waste systems had not yet been developed to a point where they could be presented as a draft IMO instrument, the Sub-Committee agreed to request MEPC 74 to retain the item on the biennial agenda of the PPR Sub-Committee for the next year and invited interested Member Governments and international organizations to submit concrete proposals for draft standards for shipboard gasification of waste systems to the next session.

11 REVIEW OF THE 2015 GUIDELINES FOR EXHAUST GAS CLEANING SYSTEMS (RESOLUTION MEPC.259(68))

11.1 The Sub-Committee recalled that MEPC 69 had agreed to a new output on the "Review of the *2015 Guidelines for Exhaust Gas Cleaning Systems* (resolution MEPC 259(68))" in the biennial agenda of the Sub-Committee.

11.2 The Sub-Committee also recalled that PPR 5 had established the Correspondence Group on Exhaust Gas Cleaning Systems (PPR 5/24, paragraph 11.5), under the coordination of Finland, with the following terms of reference:

- .1 further refine the *2015 Guidelines for exhaust gas cleaning systems* (resolution MEPC.259(68)) (2015 EGCS Guidelines), including clarification of the terms "EGC system" and "EGC unit"; polycyclic aromatic hydrocarbons (PAH) monitoring; emission testing; approval of scrubbers in accordance with Schemes A and B;
- .2 develop specific guidance on accidental breakdown, instrument malfunction and perceived temporary non-compliance and transient performance of EGCS;

- .3 develop consequential amendments to the *2009 Guidelines for port State control under the revised MARPOL Annex VI* (resolution MEPC.181(59)); and
- .4 identify any outstanding issue which needs to be resolved by the Sub-Committee.

11.3 The Sub-Committee further recalled that MEPC 73 had:

- .1 adopted resolution MEPC.307(73) on *2018 Guidelines for the discharge of exhaust gas recirculation (EGR) bleed-off water* (MEPC 73/19, paragraph 5.5 and annex 3);
- .2 instructed PPR 6 to consider, in conjunction with the advice from GESAMP, the view that the environmental benefits of reducing pollution to air were not diminished should discharge washwater present additional risks, especially as in future there would be more ships using exhaust gas cleaning systems leading to a potential increased risk and possible unintended consequences to the marine aquatic environment, when reviewing the *2015 Guidelines for exhaust gas cleaning systems* (MEPC 73/19, paragraph 5.12); and
- .3 forwarded document MEPC 73/INF.5 (CESA), providing the results of a sampling campaign of washwater from exhaust gas cleaning systems on a series of ships and the subsequent analysis, to PPR 6 for information.

Report of the Correspondence Group and related submissions

11.4 The Sub-Committee had for its consideration the report of the Correspondence Group on Exhaust Gas Cleaning Systems, contained in the following documents:

- .1 PPR 6/11 (Finland), providing part 1 of the report of the Correspondence Group and covering proposals for amendments to the 2015 EGCS Guidelines;
- .2 PPR 6/11/Add.1 (Finland), providing part 2 of the report of the Correspondence Group and covering the proposals for amendments to the *2009 Guidelines for port State control under the revised MARPOL Annex VI* (resolution MEPC.181(59)); and
- .3 PPR 6/INF.2, PPR 6/INF.3, PPR 6/INF.4 and PPR 6/INF.5 (Finland), containing the detailed comments made by the participants of the Correspondence Group during the five input rounds.

11.5 In addition, the Sub-Committee had for its consideration the following commenting documents concerning the draft revised 2015 EGCS Guidelines:

- .1 PPR 6/11/2 (CESA), providing four possible options for consistent measurement of the concentration of oil in EGCS discharges which had been explored by the Exhaust Gas Cleaning Systems Association (EGCSA);
- .2 PPR 6/11/3 (United States) proposing changes to appendix 6 of the draft revised 2015 EGCS Guidelines, in order to more thoroughly address the following aspects: guidance on how to address and document EGCS malfunction; differentiation between what constitutes a short-term versus

long-term failure of the EGCS; and additional guidance on perceived short-term emission exceedances for Scheme B systems that monitor the SO₂/CO₂ ratio;

- .3 PPR 6/11/4 (CESA), providing criteria for EGCS data inspection, the scope of the data to be supplied, and how the data should be displayed and potentially downloaded for viewing and compliance verification assessment, in the context of paragraph 7.5 of the draft revised 2015 EGCS Guidelines;
- .4 PPR 6/11/5 (IACS), proposing changes to the draft revised 2015 EGCS Guidelines with the aim of providing additional clarity, ensuring that environmental testing is carried out as part of the approval of the systems, and preventing the leakage of exhaust gases; and
- .5 PPR 6/11/6 (CLIA), proposing changes to the draft revised 2015 EGCS Guidelines aimed at making the language used in appendices 3 and 6 of the draft Guidelines more specific.

11.6 With regard to the issues that the Correspondence Group had been unable to resolve, as listed in paragraph 99 of document PPR 6/11 and paragraph 18 of document PPR 6/11/Add.1, the Sub-Committee agreed to consider the Form of SO_x Emission Compliance Certificate (SECC) and the date of application of the revised EGCS Guidelines before discussing the advice from GESAMP and the more technical issues and proposals contained in the report of the Correspondence Group and in the other documents under this agenda item.

Form of SO_x Emission Compliance Certificate

11.7 The Sub-Committee considered the use of language of a mandatory nature in the Form of SECC, as discussed by the Correspondence Group (PPR 6/11, paragraphs 13 to 16), specifically whether the word "shall" should be retained in the Form of SECC set out in appendix 1 of the draft revised 2015 EGCS Guidelines, in the sentence reading: "A copy of this Certificate, together with the EGCS Technical Manual, shall be carried on board the ship fitted with this EGCS unit at all times".

11.8 Following a brief discussion, the Sub-Committee agreed to replace the word "shall" with "should", in line with the usual IMO practice for instruments of a recommendatory nature, in the above-mentioned sentence in the Form of SECC.

Date of application of the new EGCS Guidelines

11.9 In considering the date of application of the new EGCS Guidelines, as discussed by the Correspondence Group (PPR 6/11, paragraphs 17 to 20), the Sub-Committee agreed that the revised 2015 EGCS Guidelines be prepared as a new set of guidelines (e.g. 2020 EGCS Guidelines) that would only apply to new installations fitted after a specific date, and existing EGCSs approved in accordance with 2015 EGCS Guidelines would not need to be approved again.

11.10 Having noted that, in accordance with paragraph 12 of the *Guidelines on methods for making reference to IMO and other instruments in IMO Conventions and other mandatory instruments* (resolution A.911(22)), when amendments to performance standards and technical specifications were adopted as new standards superseding existing ones (with new resolution numbers), the revised standard(s) should normally take effect not earlier than six months after adoption unless expressly decided otherwise by the relevant Committee at the

time of adoption, the Sub-Committee agreed that the new EGCS Guidelines should include an appropriate application clause in the main text of the Guidelines in line with the guidance provided in resolution A.911(22).

11.11 The Sub-Committee, having noted the view expressed by the delegation of Norway that some parts of the draft revised Guidelines, such as draft appendix 6, could be applicable to both existing and new EGCS installations, agreed to revisit this matter at the completion of the draft revised Guidelines.

Advice from GESAMP

11.12 The Sub-Committee recalled that advice had been provided by GESAMP on the interim criteria for the discharge of washwater from exhaust gas cleaning systems for the removal of sulphur-oxides (MEPC 59/4/19).

11.13 The Sub-Committee also recalled that PPR 5 had requested the Secretariat to liaise with GESAMP to seek further advice on the review of the 2015 EGCS Guidelines, taking into account the documents submitted to PPR 5.

11.14 In this context, the Sub-Committee had the following documents for its consideration:

- .1 PPR 6/11/1 (Secretariat), providing the advice by GESAMP regarding the proposals for amendments to the 2015 EGCS Guidelines that had been submitted to PPR 5;
- .2 PPR 6/INF.20 (Germany), providing information on a German project on discharge water from EGCS during which a sampling campaign was carried out on several ships using EGCS in open and closed loop operation; and
- .3 MEPC 73/INF.5 (CESA) providing the results of a sampling campaign of washwater from EGCS on a series of ships and the subsequent analysis;

11.15 In addition, based on the instruction by MEPC 73, the Sub-Committee had for its consideration the view that the environmental benefits of reducing pollution to air were not diminished should discharge washwater present additional risks, especially as in the future there would be more ships using EGCS leading to a potential increased risk and possible unintended consequences to the marine aquatic environment when reviewing the 2015 EGCS Guidelines.

11.16 In expressing their appreciation for the advice provided by GESAMP and the information contained in documents PPR 6/INF.20 and MEPC 73/INF.5, the majority of delegations that spoke acknowledged that those preliminary studies had indicated that further research on the environmental impact of the discharge of EGCS washwater into the sea was needed to inform decision-making by the Sub-Committee. Several delegations highlighted that as suggested by GESAMP, a generalized marine environmental risk assessment at least for some model harbours should be developed, with a view to clarifying that EGCS washwater discharge did not pose any unacceptable risks to the environment or alternatively the possible need for some restriction on the discharge, taking into account the increasing number of EGCSs in operation and the variety of harbour configurations and sensitive areas like estuaries and ports.

11.17 The Sub-Committee noted the information provided by the delegation of Japan that it had conducted a detailed scientific impact assessment on the discharge water from open-looped scrubbers, which concluded that the washwater would not cause unacceptable

effects either on the marine organisms and the seawater quality and consequently provided scientific justification for the use of open-looped EGCS.

11.18 Following the discussion, the Sub-Committee agreed that the comments from GESAMP and MEPC 73 (as set out in the annex to document PPR 6/11/1 and paragraph 2.6 of document PPR 6/2/3, respectively), as well as the information provided in documents PPR 6/INF.20 and MEPC 73/INF.5, should be taken into account during the further development of the draft amendments to the 2015 EGCS Guidelines. In this connection, the Sub-Committee noted the information provided by the delegation of Germany that the final report referred to in document PPR 6/INF.20 would be published in summer 2019.

11.19 The Sub-Committee encouraged interested Member States and international organizations to undertake further scientific research and to submit results to future sessions to facilitate the work on the revision of the 2015 EGCS Guidelines.

11.20 Following the suggestion for an independent study, the Sub-Committee requested the Secretariat to explore the possibility of GESAMP carrying out a review of the relevant scientific literature and also overseeing a modelling study of the impacts of discharge washwater from exhaust gas cleaning systems and to inform the Sub-Committee at its next session. In relation to the proposed review and study by GESAMP, the Sub-Committee, having noted that financial support would be required in order for such a work to be conducted, invited financial contributions.

11.21 In recognizing the need for further studies on the matter, several delegations expressed regrets about having this discussion so late and highlighted the risk that it may generate uncertainty to the sector. Those delegations stressed that due consideration should be given to early movers who had prepared for the 2020 global sulphur limit in good time and in good faith, as those ships should not be penalized in the event that measures to limit discharges were taken, either within the framework of the Organization or by local or regional authorities.

Extension of the target completion year and further work

11.22 In light of the heavy workload of the Working Group on Prevention of Air Pollution from Ships with regard to consistent implementation of regulation 14.1.3 of MARPOL Annex VI, and having noted the progress made by the Correspondence Group as well as all other documents considered at this session relating to the review of the 2015 EGCS Guidelines, the Sub-Committee invited MEPC 74 to extend the target completion year for this output to 2020, with a view to finalizing the work at PPR 7.

11.23 In this regard, the Sub-Committee agreed that all documents considered at this session under this agenda item would be further considered at PPR 7 in conjunction with any additional document submitted to the next session by interested Member Governments and international organizations.

11.24 Having noted the urgent need for guidance on failure of a single monitoring instrument and on recommended actions to take if the EGCS failed to meet the requirements, the Sub-Committee requested the Secretariat to prepare and submit a draft MEPC circular to MEPC 74, consolidating the interim guidance contained in appendix 6 of annex 2 to document PPR 6/11 and the comments made in document PPR 6/11/3, having also noted that the draft circular was not agreed text. The Sub-Committee invited interested Member Governments and international organizations to submit further comments and proposals on the draft guidance document to MEPC 74.

11.25 In this regard, the observer from INTERTANKO expressed concern that the existing text in appendix 6 to document PPR 6/11 would create a discrepancy in how non-compliance would be treated with respect to using compliant fuel oil or an EGCS and that it was unclear in particular how the expression "should be repaired as soon as possible" could be interpreted.

12 DEVELOPMENT OF MEASURES TO REDUCE RISKS OF USE AND CARRIAGE OF HEAVY FUEL OIL AS FUEL BY SHIPS IN ARCTIC WATERS

12.1 The Sub-Committee recalled that MEPC 71 had agreed to include a new output on "Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters" in the 2018-2019 biennial agenda of the Committee, assigning the PPR Sub-Committee as the associated organ, with two sessions needed to complete the work.

12.2 The Sub-Committee also recalled that MEPC 72 had approved the following scope of work for the PPR Sub-Committee:

- .1 develop a definition of heavy fuel oil (HFO) taking into account regulation 43 of MARPOL Annex I;
- .2 prepare a set of guidelines on mitigation measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters, taking into account document MEPC 72/11 (Russian Federation); and
- .3 on the basis of an assessment of the impacts, develop a ban on HFO for use and carriage as fuel by ships in Arctic waters, on an appropriate timescale.

12.3 The Sub-Committee further recalled that MEPC 72 had urged Member Governments and international organizations to submit concrete proposals to MEPC 73 on an appropriate impact methodology process to enable the PPR Sub-Committee to undertake its work.

12.4 In this regard, the Sub-Committee noted that MEPC 73 had instructed it to finalize the impact assessment methodology using documents MEPC 73/9/1 (United States) and MEPC 73/9/2 (Finland) as a basis, taking into account documents MEPC 73/9 (Canada and Russian Federation), MEPC 73/9/3 (FOEI et al.) and MEPC 73/INF.19 (Canada and Russian Federation).

Development of a definition of HFO

12.5 The Sub-Committee noted that no documents had been submitted regarding a definition of HFO.

12.6 One delegation expressed the view that, because the properties of fuel oils that were expected to become available in order to meet the 2020 sulphur limit were still unknown, finalizing a definition of HFO at this stage could be premature.

12.7 The Sub-Committee instructed the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines to develop a definition of HFO, taking into account regulation 43 of MARPOL Annex I.

Guidelines on mitigation measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters

12.8 The Sub-Committee had for its consideration document PPR 6/12/1 (Russian Federation), containing a draft scope of Guidelines on mitigation measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters.

12.9 In the ensuing discussion, document PPR 6/12/1 and the need to develop guidelines on mitigation measures to reduce the risks of use and carriage of HFO as fuel by ships in Arctic waters received wide support.

12.10 Recognizing the heavy workload of the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines, the Sub-Committee instructed the Drafting Group on OPRC Guidelines, established under agenda item 15 (see paragraph 15.5), to develop the draft guidelines on mitigation measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters, based on the draft scope proposed in document PPR 6/12/1 and taking into account document MEPC 72/11.

Methodology for an assessment of the impacts of a ban on HFO use and carriage as fuel by ships in Arctic waters

12.11 With regard to the methodology for assessing impacts of a ban on the use and carriage of HFO as fuel by ships in Arctic waters, the Sub-Committee had for its consideration the following documents:

- .1 PPR 6/12/3 (Finland et al.), proposing a methodology for assessing the impacts of a ban on HFO in Arctic waters, combining the approaches presented in documents MEPC 73/9/1 (United States) and MEPC 73/9/2 (Finland), and a plan of action for its use;
- .2 PPR 6/12/5 (Russian Federation), providing comments on document PPR 6/12/3 with respect to the suggested approach to assess costs and monetary benefits of an HFO ban, and also commenting on the policy options that could be considered based on the results of impact assessments;
- .3 MEPC 73/9 (Canada and Russian Federation), providing a progress report of an informal correspondence group convened to provide guidance on the process of conducting an impact assessment on Arctic communities and economies of a proposed ban on HFO use and carriage as fuel by ships;
- .4 MEPC 73/9/1 (United States), proposing a methodology to assess both costs and benefits to Arctic communities and industries of a ban on HFO use and carriage as fuel by ships in Arctic waters;
- .5 MEPC 73/9/2 (Finland), commenting on the impact assessment methodology proposed in document MEPC 73/9 and proposing a five-step approach for consideration, noting that much of the work necessary to complete such an assessment had already been undertaken;
- .6 MEPC 73/9/3 (FOEI et al.), commenting on document MEPC 73/9 and drawing attention to new studies that would contribute to assessing the economic and environmental impacts of a ban on the use and carriage of HFO as fuel by ships in Arctic waters; and

- .7 MEPC 73/INF.19 (Canada and Russian Federation), providing a collation of comments on the work of the informal correspondence group on the determination of an appropriate impact assessment methodology.

12.12 In the ensuing discussion, the combined proposed methodology in document PPR 6/12/3 received support from many delegations, though some delegations had comments on the approach and elements of the proposal.

12.13 In this regard, one delegation expressed the view that the methodology to be finalized should provide a practical tool for conducting impact assessments, and that the first three proposed steps might be redundant and unnecessary. The delegation further expressed the view that, in addition to document PPR 6/12/3, document MEPC 72/9/1 should also be considered in detail while developing the impact assessment methodology, and all other related documents forwarded by MEPC 73 should be taken into account.

12.14 Another delegation expressed the view that the policy options listed in the third step of the impact assessment methodology proposed in document PPR 6/12/3 should be amended to clarify that a ban on HFO should be based on, and not limited to, document MEPC 72/11/1.

12.15 One delegation expressed the view that the impact assessment methodology should not, as proposed in document PPR 6/12/3, include a comparison of monetary costs incurred by States due to the introduction of an HFO ban to the monetary benefits associated with avoided costs of cleaning up a possible HFO spill. The delegation further expressed the view that this was because the benefit of avoided clean-up costs were hypothetical, as a spill might or might not occur, as opposed to direct costs and economic losses that would result from a ban. Further, if a spill were to occur, compensation mechanisms, as provided for in the 1992 CLC and the 1992 Fund Convention, would be in effect.

12.16 Subsequently, the Sub-Committee instructed the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines to finalize the impact assessment methodology, using documents PPR 6/12/3, MEPC 73/9/1 and MEPC 73/9/2 as a basis, taking into account comments made in plenary and documents PPR 6/12/5, MEPC 73/9, MEPC 73/9/3 and MEPC 73/INF.19.

Existing impact assessments

12.17 The Sub-Committee had for its consideration seven documents regarding assessments of impacts of a ban on HFO use and carriage as fuel in Arctic waters:

- .1 PPR 6/12 (FOEI et al.), providing information on the existing body of research regarding environmental, economic and social impacts resulting from a ban on the use and carriage of HFO as fuel by ships operating in Arctic waters, and suggesting that most of the impact assessment methodology steps provided for under document MEPC 73/9/2 have been completed;
- .2 PPR 6/12/4 (Canada), outlining considerations related to the impacts of a ban on HFO and related mitigation on Arctic communities in Canada, and putting forward the view that, when weighing action to reduce the environmental risks associated with the use and carriage for use as fuel of HFO in the Arctic, possible social, economic and other impacts on vulnerable Arctic communities must also be taken into account;
- .3 PPR 6/INF.8 (WWF), providing a summary of the findings of a report commissioned by WWF and undertaken by Nuka Research and Planning

Group and Northern Economics entitled *Phasing out the Use and Carriage for Use of Heavy Fuel Oil in the Canadian Arctic: Impacts to Northern Communities*, as well as the full report;

- .4 PPR 6/INF.19 (CSC), providing the findings of a study on the likely impact of an Arctic HFO ban on cruise industry costs and passenger ticket prices, based on an analysis of three summer voyages in 2018 to the Arctic by the **MS Rotterdam**, as well as the full report;
- .5 PPR 6/INF.21 (Denmark), containing an assessment of the socio-economic, environmental and climate impacts for Greenland that would result from a ban on HFO in Arctic waters;
- .6 PPR 6/INF.24 (Canada), providing a summary of the findings of a report undertaken by Canada entitled "An Overview of Canada's Arctic and the Role of Maritime Shipping in Arctic Communities", as well as the full report; and
- .7 PPR 6/INF.25 (FOEI et al.), providing a summary of the key findings of a report by CE Delft on "Residual bunker fuel ban in the IMO Arctic waters – an assessment of costs and benefits", as well as the full report.

12.18 In addition to the seven documents mentioned above, the Sub-Committee had for its consideration document PPR 6/12/2 (Russian Federation), proposing to extend the target completion year of the output by one year due to the lack of a finalized methodology for the assessment of impacts resulting from a mandatory ban on HFO in Arctic waters, and also proposing that a ban should be considered only after all Arctic States have carried out a comprehensive impact assessment that takes into account the practical feasibility and socio-economic costs of a ban on Arctic States.

12.19 During the consideration of the above-mentioned documents, the scope of work and the instructions from MEPC for the output were discussed. In this regard, some delegations expressed the view that developing guidelines on mitigation measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters should be done prior to considering a regulatory ban on HFO. Some other delegations expressed the view that the instructions from MEPC indicated that both measures should be developed in parallel.

12.20 Regarding the timeline of the output, several delegations expressed the view that two sessions would be needed to complete the work, as was agreed at MEPC 71 when the output was approved. In addition, several delegations noted the need to progress the work while considering the impacts of a ban on local communities in Arctic regions.

12.21 In this connection, many delegations expressed the view that the priority at this session should be to finalize the impact assessment methodology, in order to have completed impact assessments regarding Arctic communities and economies submitted to the next session. Some delegations highlighted the fact that the instructions from MEPC included the phrase "on the basis of an assessment of the impacts, develop a ban", and that therefore, impact assessments must be completed prior to the development of a ban. One delegation expressed the view that the instructions from MEPC to PPR 6 were to develop a ban at this session, and that existing impact assessments should be used to proceed accordingly.

12.22 The delegation of Canada made a statement regarding its domestic, legal obligation to consult with its indigenous communities regarding a ban, expressing its view that impact assessments submitted to this session had not used the approved methodology, and reiterating

the importance of completing the impact assessment methodology at this session. As requested, the full text of the statement made by the delegation of Canada is set out in annex 22.

12.23 Following discussion, the Sub-Committee instructed the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines to review the seven documents regarding impacts of a potential HFO ban in Arctic waters, and consider whether they met the principles and criteria of the impact assessment methodology to be finalized by the Working Group.

Establishment of the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines

12.24 Following a lengthy discussion on the draft terms of reference for the Working Group, the Sub-Committee established the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines and instructed it, taking into consideration the comments and decisions made in plenary, to:

- .1 develop a definition of HFO, taking into account regulation 43 of MARPOL Annex I;
- .2 finalize the draft methodology for analysing impacts of a ban on HFO, using documents PPR 6/12/3, MEPC 73/9/1 and MEPC 73/9/2 as a basis, taking into account documents PPR 6/12/5, MEPC 73/9, MEPC 73/9/3 and MEPC 73/INF.19;
- .3 review documents PPR 6/12, PPR 6/12/4, PPR 6/INF.8, PPR 6/INF.19, PPR 6/INF.21, PPR 6/INF.2, and PPR 6/INF.25, and consider whether they meet the principles and criteria of the impact assessment methodology to be finalized by the Working Group;
- .4 advise the Sub-Committee on how to expedite the work:
 - .1 which instrument is more appropriate if a ban is introduced; and
 - .2 any need for intersessional work; and
- .5 if time permits, on the basis of an assessment of the impacts, develop a ban on HFO for use and carriage as fuel by ships in Arctic waters, on an appropriate timescale.

Report of the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines

12.25 Having considered part 1 of the report of the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines (PPR 6/WP.6), the Sub-Committee approved the report in general and took action as outlined hereunder.

Development of a definition of HFO

12.26 The Sub-Committee noted the working definition of heavy fuel oil in Arctic waters set out in annex 1 to document PPR 6/WP.6 and reproduced below:

"Heavy fuel oil means fuel oils having a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s."

Methodology for an assessment of the impacts of a ban on the use and carriage of HFO as fuel by ships in Arctic waters

12.27 The Sub-Committee agreed to the draft methodology to analyse impacts of a ban on the use and carriage of heavy fuel oil as fuel by ships in Arctic waters set out in annex 16, with a view to approval at MEPC 74 and subsequent adoption at a future session of the Committee.

Existing impact assessments

12.28 The Sub-Committee agreed with the Working Group's recommendation that the seven documents listed in paragraph 22 of document PPR 6/WP.6 (PPR 6/12, PPR 6/12/4, PPR 6/INF.8, PPR 6/INF.19, PPR 6/INF.21, PPR 6/INF.24 and PPR 6/INF.25) should be forwarded to PPR 7, recognizing that submitting Member States and international organizations could submit additional information to meet the new impact assessment methodology.

Way forward

12.29 Having noted the agreement in the Working Group that not all of the items and particular details mentioned in the methodology would be applicable to every Member State and organization that might conduct an impact assessment, the Sub-Committee invited submissions to PPR 7, especially those by Arctic States, containing impact assessments guided by, but not limited, to the above-mentioned methodology.

12.30 The Sub-Committee concurred with the view of the Working Group that MARPOL Annex I would be the most appropriate instrument for a ban on HFO for the use and carriage as fuel by ships in Arctic waters and agreed that no additional intersessional work aside from the correspondence group recommended to be established by the Drafting Group on OPRC Guidelines was required.

Report of the Drafting Group on OPRC Guidelines

12.31 Having considered the relevant paragraphs of the report of the Drafting Group on OPRC Guidelines (PPR 6/WP.7, paragraphs 4 through 12), the Sub-Committee established the Correspondence Group on Development of Guidelines on Measures to Reduce Risks of Use and Carriage of Heavy Fuel Oil as Fuel by Ships in Arctic Waters, under the coordination of the Russian Federation² and instructed it to:

- .1 develop draft guidelines on measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters on the basis of document PPR 6/12/1, and existing IMO instruments, in particular the Polar Code, regional and national measures, industry guidance and experience in the following areas:
 - .1 navigational measures;
 - .2 ship operations;

²

Coordinator:

Mrs. Natalia Kutaeva
Counsellor to the Director
Marine Rescue Service (MRS)
3/6, Petrovka St., Moscow, 125993
Tel: +7 495 626 18 06
Email: kutaevang@morspas.com

- .3 infrastructure (onshore and offshore) and communications;
 - .4 enhanced preparedness for emergencies of oil spills, early spill detection and response;
 - .5 drills and training; and
 - .6 economic assessment of potential measures;
- .2 identify any additional topics, if appropriate, to be included in the guidelines; and
- .3 submit a written report to PPR 7.

Extension of target completion year

12.32 In light of the above, the Sub-Committee invited MEPC 74 to extend the target completion year for this output to 2020.

13 REVIEW OF THE IBTS GUIDELINES AND AMENDMENTS TO THE IOPP CERTIFICATE AND OIL RECORD BOOK

13.1 The Sub-Committee recalled that MEPC 70, having considered the proposal contained in document MEPC 70/15/4 (Liberia et al.), had agreed to include a new output on "Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book" in the 2018-2019 biennial agenda of the Sub-Committee.

13.2 The Sub-Committee also recalled that PPR 5 had noted the support for the development of a set of consolidated Guidelines, using the annex to document PPR 5/15/1 (Liberia et al.) as a starting point, and had invited interested Member Governments and international organizations to work together intersessionally and submit a draft of the consolidated IBTS Guidelines and draft amendments to the IOPP Certificate and Oil Record Book to PPR 6, taking into account comments made with regard to proposals concerning discharge of clean drains and evaporation as a means of disposal of water in the sludge tank (PPR 5/24, paragraphs 15.2 to 15.5).

13.3 In this context, the Sub-Committee had for its consideration the following documents:

- .1 PPR 6/13 (INTERTANKO), providing a summary of the key technical proposals in relation to the review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book, and including explanations based on discussions during the intersessional period between PPR 5 and PPR 6; and
- .2 PPR 6/INF.17 (Sweden), providing information regarding results of recent tests on potential evaporation of hydrocarbons from the samples containing mixtures of sludge oil and bilge water during evaporation of water by heating.

13.4 With regard to the issue of evaporation, some delegations supported its deletion from the IBTS Guidelines as an acceptable means of disposal of water in the sludge tank, due to its negative impact to the environment. Conversely, other delegations supported the continued acceptance of evaporation as a means for such disposal, with the addition of appropriate controls and record-keeping provisions, based on the view that evaporation was already an

acceptable means of managing oil residues and, without its acceptance, operational and record-keeping problems could be faced.

13.5 Having noted the divergent views, the Sub-Committee agreed that further detailed discussion was needed on the issue of evaporation, as well as on all other issues and proposals listed in the annex to document PPR 6/13. Consequently, the Sub-Committee referred document PPR 6/13 to the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines for further consideration, with a view to facilitating submission of detailed proposals for a draft of the consolidated revised IBTS Guidelines and draft amendments to the IOPP Certificate and Oil Record Book to PPR 7 by interested Member Governments and international organizations.

Instructions to the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines

13.6 Subsequently, the Sub-Committee instructed the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines (see paragraph 12.24) to further consider document PPR 6/13, taking into account documents PPR 6/INF.17, PPR 5/15, PPR 5/15/1 and PPR 5/15/2, as well as comments and decisions made in plenary, and advise the Sub-Committee accordingly.

Report of the Working Group on HFO in Arctic Waters and on Review of the IBTS Guidelines

13.7 Having considered an oral report by the Chair of the Working Group regarding the review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book, the Sub-Committee noted the progress achieved, and that part 2 of its report concerning this output would be submitted to PPR 7.

13.8 In this connection, the Sub-Committee noted that the Group had agreed that proper management of evaporation of water in bilge and sludge systems should be considered rather than a prohibition of such evaporation; the Group was of the view that there was no need to discharge clean drains through a 15 ppm oil content meter; and there was general consensus on the way forward with regard to other remaining issues listed in the annex to document PPR 6/13.

Establishment of a correspondence group

13.9 The Sub-Committee established the Correspondence Group on Review of the IBTS Guidelines and Amendments to the IOPP Certificate and Oil Record Book, under the coordination of INTERTANKO,³ and instructed it to:

- .1 prepare a draft consolidated IBTS Guidelines and draft amendments to the IOPP Certificate and Oil Record Book, based on part II of the report of the Working Group on HFO in Arctic Waters and on the IBTS Guidelines

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Coordinator:

Mr. Tim Wilkins
Environment Director, Regional Manager Asia-Pacific
INTERTANKO
5 Temasek Boulevard
12-07 Suntec City Tower, Singapore
Tel: +65 6333 4007
Email: tim.wilkins@intertanko.com

established at PPR 6 and document PPR 6/13, having taken into account documents PPR 6/INF.17, PPR 5/15, PPR 5/15/1 and PPR 5/15/2; and

- .2 submit a written report to PPR 7.

Extension of the target completion year

13.10 In view of the above, the Sub-Committee invited the Committee to extend the target completion year for the output to 2020.

14 AMENDMENTS TO THE 2012 GUIDELINES ON IMPLEMENTATION OF EFFLUENT STANDARDS AND PERFORMANCE TESTS FOR SEWAGE TREATMENT PLANTS (RESOLUTION MEPC.227(64)) TO ADDRESS INCONSISTENCIES IN THEIR APPLICATION

14.1 The Sub-Committee recalled that MEPC 71 had agreed to include a new output on "Amendments to the *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants* (resolution MEPC.227(64)) to address inconsistencies in their application" in the 2018-2019 agenda of the Committee, assigning the PPR Sub-Committee as the associated organ, with two sessions required to complete the work.

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

- .1 PPR 6/14 (Norway), providing proposed amendments to the *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants* (resolution MEPC.227(64), as amended by resolution MEPC.284(70)), as well as proposing a revision of MARPOL Annex IV to strengthen the implementation of MARPOL Annex IV; and
- .2 PPR 6/14/1 (CLIA), providing comments on document PPR 6/14 and expressing concerns that the proposed amendments would also require substantial amendments to MARPOL Annex IV and were beyond the scope of the existing output.

14.3 In this context, the Sub-Committee noted that Norway had submitted a proposal (MEPC 74/14) to expand the scope of the existing output to include revision of MARPOL Annex IV and associated guidelines.

14.4 Having recalled that in accordance with the Committees' Method of work (MSC-MEPC.1/Circ.5/Rev.1, paragraph 4.9), sub-committees could not expand the scope of an output unless directed or authorized to do so by their parent organ, the Sub-Committee agreed to keep documents PPR 6/14 and PPR 6/14/1 in abeyance and await the outcome of MEPC 74 on the proposal by Norway to expand the scope of the existing output, with a view to revisiting the matter at PPR 7.

15 GUIDE ON PRACTICAL METHODS FOR THE IMPLEMENTATION OF THE OPRC CONVENTION AND THE OPRC-HNS PROTOCOL

General

15.1 The Sub-Committee recalled that MEPC 70 had approved a new output proposed by Norway (MEPC 70/15/2) to facilitate the ratification and implementation of the OPRC

Convention and the OPRC-HNS Protocol through the development of a practical guidance document (MEPC 70/18, paragraphs 15.6 and 15.7).

15.2 The Sub-Committee recalled also that PPR 5 had established the Correspondence Group on OPRC Guidelines, under the coordination of Norway, and had instructed it to develop a final draft of the Guide on practical methods for implementation of the OPRC Convention and the OPRC-HNS Protocol, and provide recommendations on how the Guide should be promoted once finalized (PPR 5/24, paragraph 17.4).

Report of the Correspondence Group on OPRC Guidelines and related submissions

15.3 The Sub-Committee, having considered the report of the Correspondence Group on OPRC Guidelines (PPR 6/15), noted the progress made on the finalization of the draft Guide as well as the recommendations on promoting it once finalized, and agreed on the need to finalize the draft Guide at this session.

15.4 The Sub-Committee also considered document PPR 6/15/2 (REMPEC), providing a summary of the outcomes of the regional workshop on response to spill incidents involving hazardous and noxious substances (MEDEXPOL 2018) organized by REMPEC in June 2018; highlighting the achievements and ongoing work on guidelines and tools related to HNS spill preparedness and response; and identifying a number of outstanding challenges related to the ratification and implementation of the OPRC-HNS Protocol within the Mediterranean region.

Establishment of the Drafting Group on OPRC Guidelines

15.5 Subsequently, the Sub-Committee established the Drafting Group on OPRC Guidelines and instructed it, taking into account the comments and decisions made in plenary, to:

- .1 finalize the draft Guide on practical methods for implementation of the OPRC Convention and the OPRC-HNS Protocol, on the basis of document PPR 6/15, taking into account the information provided in document PPR 6/15/2; and
- .2 review and finalize the recommendations for promoting the Guide, based on the initial recommendations developed by the Correspondence Group in document PPR 6/15.

15.6 The Sub-Committee recalled that, under agenda item 12 (Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters), it had also instructed the Drafting Group on OPRC Guidelines to develop draft guidelines on mitigation of risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters based on the draft scope proposed in document PPR 6/12/1, and taking into account document MEPC 72/11, as well as comments and decisions made in plenary.

Cooperation with UN Environment

15.7 The Sub-Committee noted the information provided in document PPR 6/15/1 (Secretariat) regarding the cooperation between IMO and the Regional Seas Programme (RSP) established by the United Nations Environment Programme, and the significant support provided to the implementation of the OPRC Convention, the OPRC-HNS Protocol and other IMO instruments by the inter-governmental organizations and Regional Activity Centres (RACs) established under the various RSPs worldwide.

15.8 With regard to areas of potential cooperation with RSPs and associated RACs and regional organizations, as discussed in paragraphs 28 to 31 of document PPR 6/15/1, the Sub-Committee invited interested Member Governments and international organizations to submit further ideas and information to MEPC, if deemed appropriate.

Report of the Drafting Group on OPRC Guidelines

15.9 Having considered the relevant parts of the report of the Drafting Group (PPR 6/WP.7, paragraphs 13 to 24 and annex), the Sub-Committee took action as outlined in paragraphs 15.10 to 15.15.

Final draft of the Guide on practical methods for the implementation of the OPRC Convention and OPRC-HNS Protocol

15.10 The Sub-Committee agreed to the final draft of the Guide on practical methods for the implementation of the OPRC Convention and OPRC-HNS Protocol, set out in annex 17, for submission to MEPC 74 with a view to approval and subsequent publication.

Recommendations addressing outstanding challenges related to the ratification and implementation of the OPRC Convention and OPRC-HNS Protocol

15.11 With regard to the recommendations from the regional workshop MEDEXPOL 2018 addressing the outstanding challenges related to the ratification and implementation of the OPRC Convention and the OPRC-HNS Protocol, the Sub-Committee:

- .1 invited interested Member States to propose a new output on the development of an HNS Response Manual;
- .2 requested the Secretariat to update the IMO Model Introductory Course on the Response to HNS in the Marine Environment – Manager Level;
- .3 noted the need to consider ways of increasing the number of capacity-building activities related to HNS preparedness and response, through IMO's ITCP, the different Regional Seas Programmes or relevant industry initiatives; and
- .4 noted the need to consider ways of exchanging experiences on responding to pollution incidents, including by regular reporting to the Sub-Committee, to enhance knowledge of responding to spill incidents, potentially supporting additional ratification to the OPRC-HNS Protocol and the HNS Convention.

Recommendations on how to promote the Guide

15.12 Having considered the recommendations of the Drafting Group with regard to promoting the Guide on practical methods for the implementation of the OPRC Convention and OPRC-HNS Protocol once published, the Sub-Committee requested the Secretariat to:

- .1 explore the possible development of a short video to highlight good practice and experiences in the effective implementation of the OPRC Convention and the OPRC HNS protocol;
- .2 explore possibilities of developing a standard presentation covering the content of the Guide, to be used in technical cooperation activities and relevant meetings;

- .3 consider means of translating the Guide into other languages; and
- .4 explore the possibility of developing an e-version of the Guide, considering the number of hyperlinks in it.

15.13 In this context, the Sub-Committee encouraged:

- .1 inter-governmental organizations, Regional Seas Programmes and other similar organizations to create awareness and disseminate information about the Guide within their respective networks;
- .2 the various industry initiatives, notably the Global Initiative (GI) Programme, to create awareness and disseminate information about the Guide amongst its members, including the use of the promotional material;
- .3 the Secretariat, Regional Seas Programmes, Member Governments, international organizations and other interested parties to seek opportunities to promote the Guide through awareness-raising at relevant workshops, training courses and capacity-building activities, as well as the triennial international conference series on oil spill preparedness and response as appropriate; and
- .4 the submission of documents and other material promoting the Guide at various events, including at IMO sub-committees and international conferences.

15.14 In addition, the Sub-Committee recommended that any future updates to the IMO OPRC and OPRC-HNS model courses, including possible future e-learning courses, made reference to the Guide, and encouraged service providers delivering existing model courses to make reference to the Guide.

Completion of the work on the output

15.15 The Sub-Committee invited the Committee to note that the work on this output had been completed.

16 UNIFIED INTERPRETATION TO PROVISIONS OF IMO ENVIRONMENT-RELATED CONVENTIONS

Unified Interpretations to facilitate the implementation of regulation 13.2.2 of MARPOL Annex VI

16.1 The Sub-Committee had for its consideration document PPR 6/16 (IACS), providing a copy of revision 1 of IACS Unified Interpretation (UI) MPC98, relating to the "time of the replacement or addition of the engine" for the applicable Tier standard in accordance with regulation 13.2.2 of MARPOL Annex VI.

16.2 The Sub-Committee noted that IACS UI MPC98 (Rev.1) reflected the amendments to MARPOL Annex VI concerning the designation of the Baltic Sea and the North Sea Emission Control Areas for NO_x Tier III control, which had been adopted by resolution MEPC.286(71). The Sub-Committee also noted that IACS had modified the text in the UI so further changes could be avoided if new NO_x Tier III emission control areas were designated.

16.3 Following consideration, the Sub-Committee agreed to the draft unified interpretation of regulation 13.2.2 of MARPOL Annex VI, as set out in annex 18, in relation to the time of the replacement or addition of an engine, with a view to replacing section 7 of MEPC.1/Circ.795/Rev.3 on *Unified interpretations to MARPOL Annex VI* subject to the interpretation being approved by MEPC 74.

16.4 The Sub-Committee considered document PPR 6/16/2 (Norway), presenting reasons as to why, in the context of regulation 13.2.2 of MARPOL Annex VI, a marine diesel engine that was installed to replace an oil-fired boiler should be regarded as a replacement engine rather than an additional marine diesel engine, and proposing a unified interpretation of regulation 13.2.2 of MARPOL Annex VI in that regard.

16.5 In the ensuing discussion, some delegations expressed the view that the proposed unified interpretation was not in line with regulation 13.2.2 as they considered that a marine diesel engine that was installed to replace an oil-fired boiler should be regarded as an additional marine diesel engine. Some other delegations were of the view that the proposed unified interpretation constituted an amendment to regulation 13.2.2. The observer from ICS, in referring to IACS unified interpretation MPC103 which addressed replacement and additional engines in regulation 13.2.2, suggested a review by IACS of its UI MPC103 with a view to considering possible amendments to address the case identified in document PPR 6/12/2.

16.6 In light of the diverging views on the matter, the Sub-Committee did not agree to the draft unified interpretation proposed by Norway in document PPR 6/16/2.

Unified Interpretations to facilitate the implementation of regulation 16.9 of MARPOL Annex VI

16.7 The Sub-Committee had for its consideration document PPR 6/16/1 (Norway), proposing two unified interpretations of regulation 16.9 of MARPOL Annex VI to:

- .1 clarify an inconsistency between regulation 16.9 of MARPOL Annex VI, which requires batch loaded incinerators to be designed so that the combustion chamber gas outlet temperature reaches 600°C within five minutes after start-up, and the corresponding provision in section 4.2 of the *2014 Standard specification for shipboard incinerators* (resolution MEPC.244(66)) which refers to the temperature in the actual combustion space reaching 600°C within five minutes after start; and
- .2 provide a clear distinction between waste and sludge oil that is fed into continuous-feed type incinerators, unlike the existing corresponding unified interpretation in MEPC.1/Circ.795/Rev.3 which, according to Norway, inadvertently implies that waste also includes sludge oil and should also not specify a time limit of five minutes for reaching 850°C.

16.8 The Sub-Committee, based on the proposal paragraph 27 to document PPR 6/16/1, agreed to a draft revised unified interpretation of regulation 16.9 of MARPOL Annex VI, as set out in annex 18, with a view to replacing section 9 of MEPC.1/Circ.795/Rev.3, subject to the interpretation being approved by MEPC 74.

Unified Interpretations to facilitate the implementation of regulation 13.5.3 of MARPOL Annex VI

16.9 The Sub-Committee considered document PPR 6/16/3 (IACS) providing the understanding of IACS members of the wording "Tier II only" in regulation 13.5.3 of MARPOL Annex VI, seeking clarification from the Sub-Committee as to whether the recording requirement in regulation 13.5.3 of MARPOL Annex VI applied to replacement engines (Tier II) subject to the *2013 Guidelines as required by regulation 13.2.2 of MARPOL Annex VI in respect of non-identical replacement engines not required to meet the Tier III limit* (resolution MEPC.230(65)) after the relevant NO_x Tier III emission control area took effect, and proposing a draft unified interpretation accordingly.

16.10 Following discussion, the Sub-Committee agreed that the recording requirement in regulation 13.5.3 of MARPOL Annex VI did not apply to replacement engines (Tier II) subject to resolution MEPC.230(65)).

16.11 Subsequently, the Sub-Committee agreed a relevant draft unified interpretation to regulation 13.5.3 of MARPOL Annex VI, as set out in annex 18, for inclusion in a revision of MEPC.1/Circ.795/Rev.3, subject to the interpretation being approved by MEPC 74.

17 BIENNIAL AGENDA AND PROVISIONAL AGENDA FOR PPR 7

Biennial status report

17.1 The Sub-Committee recalled that the Assembly, at its thirtieth session, had adopted the *Strategic plan for the Organization for the six-year period 2018 to 2023* (resolution A.1110(30)) and the document on *Application of the Strategic Plan of the Organization* (resolution A.1111(30)).

17.2 The Sub-Committee also recalled that MEPC 73 had confirmed the Sub-Committee's biennial status report for 2018-2019 and the provisional agenda for PPR 6.

17.3 Taking into account the progress made at this session, the Sub-Committee prepared the biennial status report, as set out in annex 19, for approval by MEPC 74.

Proposed biennial agenda for the 2020-2021 biennium and provisional agenda for PPR 7

17.4 Taking into account the progress made at this session and the relevant decisions of MEPC 72, MSC 99, MEPC 73 and MSC 100, the Sub-Committee prepared its proposed biennial agenda for 2020-2021, and the provisional agenda for PPR 7, as set out in annexes 20 and 21 respectively, for consideration by MEPC 74.

Correspondence groups established at this session

17.5 The Sub-Committee established Correspondence Groups on the following subjects, due to report to PPR 7:

- .1 development of guidelines on measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters (see paragraph 12.31); and
- .2 review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book (see paragraph 13.9).

Arrangements for the next session

17.6 The Sub-Committee, taking into account the decisions made under the respective agenda items, anticipated that the working, technical and drafting groups might be established at PPR 7 on the following subjects:

- .1 evaluation of safety and pollution hazards of chemicals;
- .2 revision of guidelines relevant to the AFS Convention resulting from the introduction of controls on cybutryne;
- .3 prevention of air pollution from ships (agenda items 7, 8 and 9 of the provisional agenda for PPR 7);
- .4 development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters;
- .5 review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book; and
- .6 amendments to the *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatments plants* (resolution MEPC.227(64)).

Intersessional meetings

17.7 The Sub-Committee noted that MEPC 72 had approved the holding of an intersessional meeting of the ESPH Working Group in 2019, which had been subsequently endorsed by C 120. The Sub-Committee invited MEPC 74 to approve the holding of an intersessional meeting of the ESPH Working Group in 2020.

Date for the next session

17.8 The Sub-Committee noted that the seventh session of the Sub-Committee has tentatively been scheduled to take place from 17 to 21 February 2020.

18 ELECTION OF CHAIR AND VICE-CHAIR FOR 2020

18.1 In accordance with the Rules of Procedure of the Marine Environment Protection Committee, the Sub-Committee unanimously elected Dr Flavio Da Costa Fernandes (Brazil) as Chair and Dr Anita Mäkinen (Finland) as Vice-Chair, both for 2020.

Expression of appreciation

18.2 The Sub-Committee expressed its sincere thanks and appreciation to Mr. Sveinung Oftedal of Norway and Dr Flavio Da Costa Fernandes of Brazil for their excellent services to the Sub-Committee whilst serving as its Chair and Vice-Chair, respectively.

19 ANY OTHER BUSINESS

NO_x emissions from marine diesel engines equipped with SCR systems

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

- .1 PPR 6/19 (Norway), containing results from measurements of marine diesel engines equipped with Selective Catalytic Reduction (SCR) systems, and discussing the detection of a malfunction or reduced efficiency of a SCR system; and
- .2 PPR 6/19/1 (EUROMOT), providing comments on document PPR 6/19 with regard to the appropriateness of the provided information to engine/SCR systems certified to Tier II or Tier III in accordance with the requirements of MARPOL Annex VI and the NO_x Technical Code 2008.

19.2 In the ensuing discussion, the following views were expressed:

- .1 conclusions from measurements of ships under the Norwegian NO_x Fund should not be confounded with those of ships certified under MARPOL Annex VI, as different requirements applied under the two schemes for the approval and for the onboard verification procedure; new SCR systems were designed in accordance with the NO_x Technical Code and surveyed in accordance with the Code and the 2017 SCR Guidelines (resolution MEPC.291(71));
- .2 the NO_x Technical Code and the 2017 SCR Guidelines sufficiently addressed the issues raised in document PPR 6/19; engine manufacturers were continuously gaining experiences with NO_x Tier III technology and improving the SCR systems;
- .3 the number of ships surveyed in the ammonia slip study conducted by Norway was not representative of the global number of ships installed with SCR systems;
- .4 in contrast to the Norwegian NO_x Fund, the 2017 SCR guidelines require a procedure to monitor the SCR performance and catalyst condition, and this procedure was to be described in the NO_x Technical File; and frequent maintenance and inspections of SCR systems, comprising of spot check measurements, would provide in due time a deterioration trend which permitted maintenance and corrective action by the ship's operator before the reduction efficiency moved out of target;
- .5 the concerns expressed in document PPR 6/19 clearly indicated the level of technology for SCR systems for compliance with the NO_x Tier III requirements was inadequate from both an environmental and economic standpoint; attention should be drawn to shortcomings of the systems, including a sharp decrease in the life of the catalysts due to the use of low-quality fuel or fuel oil with high sulphur content, as well as the occurrence of malfunction of fuel equipment;
- .6 the proposals for further improvement with respect to implementation of the Tier III regulations, as contained in document PPR 6/19, were not related to

measurement campaign under the Norwegian NO_x Fund; there was a need for a system to ensure that SCR system was working effectively; and

- .7 Member States and international organizations could be invited to report experiences with the operation of engine/SCR-systems certified under MARPOL Annex VI and based on a review of these experiences, the Sub-Committee could consider at a later stage whether any amendments to the 2017 SCR Guidelines would be needed.

19.3 Following discussions, the Sub-Committee invited Member States and international organizations to report experiences with the operation of engine/SCR-systems certified under MARPOL Annex VI under the agenda item on "Any other business". The Sub-Committee also agreed that should any interested Member Governments wish to amend the 2017 SCR Guidelines, a proposal for a new work output should be submitted to a future session of MEPC in accordance with the Committees' Method of work (MSC-MEPC.1/Circ.5/Rev.1), taking into account the comments made at this session.

Environmental concentrations of disinfection by-products

19.4 The Sub-Committee noted the information contained in document PPR 6/INF.9 (Australia) regarding a study that modelled the environmental concentrations of disinfection by-products in several Australian port environments as a result of the discharge of ballast water treated using ballast water management systems under two different scenarios.

OpenRisk project

19.5 The Sub-Committee also noted the information contained in document PPR 6/INF.16 (WMU) concerning activities and outcomes of the OpenRisk project with a particular emphasis on risk assessment tools and risk management guidelines for accidental maritime oil spills developed by the project.

20 ACTION REQUESTED OF THE COMMITTEE

20.1 The Marine Environment Protection Committee, at its seventy-fourth session, is invited to:

- .1 concur with the evaluation of products and their respective inclusion in lists 1, 2, 3 and 5 of MEPC.2/Circ.24 (issued on 1 December 2018), with validity for all countries and with no expiry date (paragraph 3.5.1);
- .2 concur with the evaluation of cleaning additives and their inclusion in annex 10 of MEPC.2/Circ.24 (paragraph 3.5.3);
- .3 concur with the evaluation products and cleaning additives and their inclusion in annexes 1, 3 and 10, respectively, of the next revision of the MEPC.2/Circular (i.e. MEPC.2.Circ.25), to be issued in December 2019 (paragraphs 3.26 and 3.27);
- .4 approve the draft MEPC circular on *Guidance on the implementation of provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC Code related to paraffin-like products* (paragraph 3.29 and annex 1);

- .5 consider the draft modifications to the draft amendments to the IBC Code as approved by MEPC 73 and MSC 100, with a view to adoption (paragraphs 3.31 to 3.33 and annex 2);
- .6 consider re-ordering the definitions in chapter 1 of the IBC Code in alphabetical order and take action as appropriate, taking into account any cross-referencing issues that may arise as a result (paragraph 3.34);
- .7 approve, subject to concurrent approval by MSC 101, the draft MSC-MEPC circular on *2019 Guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes* (paragraph 3.35 and annex 3);
- .8 approve the draft revised MEPC circular on *Guidelines for the provisional assessment of liquid substances transported in bulk*, which includes the guidance for assessing complex mixtures (paragraph 3.36 and annex 4);
- .9 endorse, subject to concurrent decision by MSC 101, the draft PPR.1 circular on *Decisions with regard to the categorization and classification of products* (paragraph 3.37 and annex 5);
- .10 approve the draft revised BWM circular on *Data gathering and analysis plan for the experience-building phase associated with the BWM Convention* (paragraph 4.4 and annex 7);
- .11 note the report of the Technical Group on Amendments to the AFS Convention (paragraph 6.9 and annex 8)
- .12 approve the draft amendment to Annex 1 (Controls on anti-fouling systems) to the AFS Convention to include controls on cybutryne, with a view to subsequent adoption (paragraph 6.11 and annex 1 to annex 8);
- .13 note that the Sub-Committee encouraged Member States to conduct baseline studies prior to the entry into force of controls on cybutryne, in order to allow the subsequent determination of the effectiveness of the controls (paragraph 6.12);
- .14 approve the draft amendment to the model form of the International Anti-fouling System Certificate (IAFSC), with a view to subsequent adoption, having first considered the timing of the issuance of new Certificates following the entry into force of controls on cybutryne and of the amended form of the IAFSC (paragraphs 6.14 and 6.15 and annex 2 to annex 8);
- .15 request the governing bodies of the London Convention and Protocol, at their next meeting, to consider a revision of the *Revised guidance on best management practices for removal of anti-fouling coatings from ships, including TBT hull paints* (LC-LP.1/Circ.31/Rev.1), in light of the introduction of controls on cybutryne under the AFS Convention, with a view to updating the guidance contained in AFS.3/Circ.3/Rev.1 (paragraph 6.17);
- .16 note the need to consider an update to the list of items to be listed in the Inventory of Hazardous Materials under the Hong Kong Convention to include cybutryne when the respective controls enter into force, and take action as appropriate (paragraph 6.18);

- .17 note that the Sub-Committee completed its work under the output "Consideration of the impact on the Arctic of emissions of Black Carbon from international shipping" in accordance with the terms of reference given by MEPC 62 (paragraph 7.8);
- .18 provide instruction on further work on the reduction of the impact on the Arctic of Black Carbon emissions from international shipping, taking into account the relevant outcomes to date, including the simplified compilation of identified candidate control measures and the supporting guidance identifying areas where further work may be required in the future (paragraph 7.8 and annex 9);
- .19 note that, as a consequence of draft amendments to MARPOL Annex VI for introducing on board sampling of fuel oil not in use by the ship, guidelines to support effective and safe implementation would need to be developed before the entry into force of the new requirements (paragraph 8.48);
- .20 approve the draft amendments to MARPOL Annex VI, with a view to adoption at MEPC 75 (paragraph 8.58 and annex 10);
- .21 consider the draft guidance for port State control on contingency measures for addressing non-compliant fuel oil, in conjunction with possible concrete proposals for further development or alternative measures, with a view to finalization as a matter of urgency (paragraph 8.60 and annex 11);
- .22 decide on the square brackets and adopt the draft MEPC resolution on *2019 Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI* (paragraphs 8.63 to 8.65 and annex 12);
- .23 approve the draft MEPC circular on the *2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (paragraph 8.66 and annex 13);
- .24 approve, subject to concurrent approval by MSC 101, the draft MSC-MEPC circular on *Delivery of compliant fuel oil by suppliers*, (paragraph 8.68 and annex 14);
- .25 approve the draft unified interpretation to regulation 14.1 of MARPOL Annex VI (paragraph 8.69 and annex 18);
- .26 consider the draft 2019 Guidelines for port State control under MARPOL Annex VI and the associated draft MEPC resolution, which were agreed, in principle, by the Sub-Committee, with a view to finalization and subsequent adoption (paragraph 8.76 and annex 15);
- .27 note that the Sub-Committee requested the Secretariat to explore the possibility of GESAMP carrying out a review of the scientific literature and overseeing a modelling study on the environmental impact of the discharge of washwater from exhaust gas cleaning systems and to update PPR 7 (paragraph 11.20);
- .28 note that, owing to a heavy workload, the Sub-Committee agreed to further consider at PPR 7 all documents that had been considered during PPR 6 under the agenda item on "Review of the 2015 Guidelines for Exhaust Gas Cleaning Systems (resolution MEPC.259(68))" (paragraphs 11.22 and 11.23);

- .29 note that the Sub-Committee requested the Secretariat to prepare and submit to the Committee a draft MEPC circular containing interim guidance on failure of a single monitoring instrument and on recommended actions to take if the exhaust gas cleaning system fails to meet the provisions of the EGCS Guidelines, taking into account that the draft circular was not agreed text and that interested Member Governments and international organizations had been invited to submit further comments and proposals on the draft guidance document to MEPC 74 (paragraph 11.24);
- .30 with regard to the development of measures to reduce the risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters:
 - .1 note the working definition of heavy fuel oil in Arctic waters (paragraph 12.26);
 - .2 approve the draft methodology to analyse impacts of a ban on the use and carriage of heavy fuel oil for as fuel by ships in Arctic waters, with a view to subsequent adoption at a future session (paragraph 12.27 and annex 16); and
 - .3 note that the Sub-Committee invited submissions to PPR 7, especially those by Arctic States, containing impact assessments guided by but not limited to the methodology (paragraph 12.28);
- .31 approve the draft Guide on practical methods for the implementation of the OPRC Convention and OPRC-HNS Protocol, for subsequent publication (paragraph 15.10 and annex 17);
- .32 endorse the actions of the Sub-Committee for addressing the outstanding challenges related to the ratification and implementation of the OPRC Convention and the OPRC-HNS Protocol (paragraph 15.11);
- .33 endorse the actions of the Sub-Committee with regard to promoting the Guide on practical methods for the implementation of the OPRC Convention and OPRC-HNS Protocol once published (paragraph 15.12 to 15.14);
- .34 approve the draft unified interpretations of regulation 13.2.2 of MARPOL Annex VI in relation to the time of the replacement or addition of an engine (paragraph 16.3 and annex 18);
- .35 approve the draft unified interpretations of regulation 16.9 of MARPOL Annex VI with regard to shipboard incinerators (paragraph 16.8 and annex 18);
- .36 approve the draft unified interpretations of regulation 13.5.3 of MARPOL Annex VI with regard to the applicability of recording requirements to replacements engines (Tier II) subject to resolution MEPC.230(65)) (paragraph 16.11 and annex 18);
- .37 approve the biennial status report of the Sub-Committee for the current biennium (paragraph 17.3 and annex 19);

- .38 approve the proposed biennial agenda of the Sub-Committee for the 2020-2021 biennium and the provisional agenda for PPR 7 (paragraph 17.4 and annexes 20 and 21);
- .39 approve the holding of an intersessional meeting of the ESPH Working Group in 2020 (paragraph 17.7); and
- .40 approve the report in general.

20.2 The Maritime Safety Committee, at its 101st session, is invited to:

- .1 consider the draft modifications to the draft amendments to the IBC Code, as approved by MEPC 73 and MSC 100, with a view to adoption, taking into account the corresponding decision of MEPC 74 (paragraphs 3.31 to 3.33 and annex 2);
- .2 consider re-ordering the definitions in chapter 1 of the IBC Code in alphabetical order and take action as appropriate, taking into account any cross-referencing issues that may arise as a result as well as the corresponding decision of MEPC 74 (paragraph 3.34);
- .3 approve, subject to concurrent approval by MEPC 74, the draft MSC-MEPC circular on *2019 Guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes* (paragraph 3.35 and annex 3);
- .4 endorse, subject to concurrent decision by MEPC 74, the draft PPR.1 circular on *Decisions with regard to the categorization and classification of products* (paragraph 3.37 and annex 5);
- .5 note that the Sub-Committee considered and concurred with paragraph 5.3.2 of the draft Interim Guidelines for the safety of ships using methyl/ethyl alcohol as fuel and agreed to advise CCC 6 accordingly (paragraph 3.39);
- .6 note that the draft *2019 Guidelines on consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI*, as prepared by the Sub-Committee and submitted to MEPC 74 for adoption by means of an MEPC resolution, contain provisions addressing possible safety implications relating to fuel oils meeting the 0.50% m/m sulphur limit (e.g. section 6 and appendix 2) that were developed based on the consideration of, inter alia, document MSC 100/8/2 (paragraph 8.64 and annex 12); and
- .7 approve, subject to concurrent approval by MEPC 74, the draft MSC-MEPC circular on *Delivery of compliant fuel oil by suppliers* (paragraph 8.68 and annex 14).

(The annexes to this report have been issued as document PPR 6/20/Add.1)
