INTERNATIONAL MARITIME ORGANIZATION

E

THIRTY-FIFTH CONSULTATIVE MEETING
OF CONTRACTING PARTIES TO THE
LONDON CONVENTION
&
EIGHTH MEETING OF CONTRACTING
PARTIES TO THE LONDON PROTOCOL
14 – 18 October 2013

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Agenda item 15

REPORT OF THE THIRTY-FIFTH CONSULTATIVE MEETING AND THE EIGHTH MEETING OF CONTRACTING PARTIES

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ANNEXES

1 INTRODUCTION

1.1 The 35th Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Convention) convened in accordance with article XIV(3)(a) of the Convention, and the 8th Meeting of Contracting Parties to the 1996 Protocol to the London Convention 1972 (London Protocol) convened in accordance with article 19.2.1 of the Protocol. They were concurrently held at the Headquarters of the International Maritime Organization, London, from 14 to 18 October 2013, under the chairmanship of Mrs. Sue Milburn-Hopwood (Canada). Captain Ibraheem Olugbade (Nigeria) was First Vice-Chairman and Dr. Gi-Hoon Hong (Republic of Korea) was Second Vice-Chairman.

1.2 The session was attended by delegations from Contracting Parties to the London Convention and Contracting Parties to the London Protocol; States that are neither Contracting Parties to the London Convention nor to the Protocol; IMO Associate Members; and observers from intergovernmental and non-governmental organizations in consultative status; as listed in document LC 35/INF.1.

Opening of the Meetings

1.3 In opening the proceedings, the Chairman welcomed all participants to both Meetings.

The Secretary-General's opening address

1.4 The Secretary-General, Mr. Koji Sekimizu, welcomed participants and delivered an opening address. The full text of the opening address can be downloaded from the IMO website at the following link: http://www.imo.org/MediaCentre/SecretaryGeneral/Secretary-GeneralsSpeechesToMeetings/Pages/Default.aspx

Chairman's remarks

1.5 Mrs. Milburn-Hopwood thanked the Secretary-General for his words of welcome and guidance, in particular, on the work the London Convention and London Protocol Parties are undertaking in respect of the proposal to amend the Protocol to regulate placement of matter for ocean fertilization and other marine geoengineering activities and on other urgent matters related to mitigating climate change while protecting the marine environment. She also expressed thanks for the support IMO continues to give to the activities of the London Convention and Protocol.

Adoption of the agenda

1.6 The agenda for the 35th Consultative Meeting and the 8th Meeting of Contracting Parties (LC 35/1), as adopted, is contained in annex 1. It includes, under each agenda item, a list of documents that were submitted for consideration. Both governing bodies also agreed on a timetable for their work (LC 35/1/1, annex 2).

Participation of intergovernmental organizations and international non-governmental organizations

1.7 The Secretariat informed the Meetings that no new applications for observer status had been received in the intersessional period.

1.8 The Meetings recalled that, in 2012, the application for observer status submitted by the Scientific Committee on Oceanic Research (SCOR) was not approved and referred for further analysis. It was noted that there had been a number of communications between SCOR and the Secretariat confirming that SCOR had made adjustments to its publicly available information, in particular, regarding the wording associated with the SCOR committees operating in China. It was also noted that SCOR was re-evaluating its request for observer status due to resource constraints. A decision on this issue would be taken by the SCOR Executive Committee in November 2013.

ACTION BY THE GOVERNING BODIES

1.9 **Both governing bodies agreed to invite United Nations organizations and intergovernmental organizations to the 36th Consultative Meeting and the 9th Meeting of Contracting Parties and to intersessional meetings of their respective subsidiary bodies, as follows:**

UNITED NATIONS
EUROPEAN COMMISSION (EC)
HELSINKI COMMISSION
INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (WORLD BANK)
INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA (ICES)
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD)
OSPAR COMMISSION
PERMANENT COMMISSION FOR THE SOUTH PACIFIC (CPPS)
REGIONAL SEAS CONVENTIONS UNDER THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)
SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMME (SPREP)

1.10 **Both governing bodies, at the conclusion of their sessions, decided that the following international non-governmental organizations should be invited to the 36th Consultative Meeting and the 9th Meeting of Contracting Parties and to intersessional meetings of their respective subsidiary bodies:**

ADVISORY COMMITTEE ON PROTECTION OF THE SEA (ACOPS)
CARBON CAPTURE AND STORAGE ASSOCIATION (CCSA)
GREENPEACE INTERNATIONAL
INTERNATIONAL ASSOCIATION OF OIL & GAS PRODUCERS (OGP)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL OCEAN INSTITUTE (IOI)
INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)
NATURAL RESOURCES DEFENSE COUNCIL (NRDC)
THE WORLD ASSOCIATION FOR WATERBORNE TRANSPORT INFRASTRUCTURE (PIANC)
WORLD ORGANIZATION OF DREDGING ASSOCIATIONS (WODA)
WORLD WIDE FUND FOR NATURE (WWF)

1.11 **The governing bodies, having noted that SCOR was re-evaluating its intention to be considered for observer status, pending the outcome of the SCOR Executive Committee meeting in November 2013, agreed to await further communications from SCOR before finalizing a decision on granting observer status.**

1.12 **The governing bodies agreed to continue with the invitation to the World Wildlife Fund (WWF), on a provisional basis, until their next session and to reconsider the status of WWF at that session, based on a report outlining the added value that this organization brings to the proceedings. This analysis would be extended to all observers over the period 2009 to 2014.**

2 STATUS OF THE LONDON CONVENTION AND PROTOCOL

The London Convention 1972 (London Convention)

2.1 The Meetings were informed on the status of the London Convention and noted that 87 Governments had ratified or acceded to the Convention. The governing bodies also noted that 20 Contracting Parties had accepted the 1978 amendments concerning the settlement of disputes and that this number had not grown since 1996, the year in which the London Protocol had been adopted with, in its annex 3, the same settlement of dispute arrangements.

The 1996 Protocol to the London Convention, 1972 (London Protocol)

2.2 The Meetings were also informed that following the accession by Estonia on 10 July 2013, 43 States had now ratified or acceded to the London Protocol. The governing bodies noted that five of the 18 Contracting Parties to the Convention, that were signatories to the London Protocol had not yet ratified it (Argentina, Brazil, Finland, Morocco and the United States).

2.3 The Meetings also noted that the pace of accessions/ratifications of the Protocol had slowed as compared with the peaks in the period from 1998 to 2000, 2006 and in 2008 (see table).

Year	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***
Rate	***1***	***3***	***3***	***6***	***3***	***NIL***	***2***	***3***	***1***	***8***
Total	***1***	***4***	***7***	***13***	***16***	***16***	***18***	***21***	***22***	***30***

Year	***2007***	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	***2016***
R/A	***2***	***4***	***1***	***2***	***2***	***1***	***1***			
Total	***32***	***36***	***37***	***39***	***41***	***42***	***43***			

2.4 The Meetings acknowledged that, even with the Protocol in force, it remained important to obtain accurate information concerning the progress made towards ratifying the Protocol by the Contracting Parties to the London Convention and by the observer States represented during the week. This would help the Meetings to plan their work and to monitor any shift in momentum from the Convention to the Protocol.

2.5 The delegation of Uruguay informed the Meetings that, on 21 June 2013, the Uruguay Parliament had passed Law No. 1901 giving effect to the obligations under the London Protocol, and that Uruguay would be forwarding its instrument of accession in the near future.

2.6 The delegations of Argentina, Peru and the United States reported on their progress towards joining the London Protocol.

2.7 The delegation of Brazil, in reporting its progress, highlighted that there were no barriers to compliance with the London Convention and Protocol and that all its efforts were focused on implementing laws relevant to the London Protocol. In this regard Brazil drew the attention of the Meetings to the "National Policy on Solid Waste" which it had adopted in 2010 (LC 35/INF.3).

2.8 All States preparing for the Protocol were encouraged to keep the Secretariat informed of developments.

3 CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUPS

3.1 The Chairman of the Scientific Groups, Dr. Gi-Hoon Hong (Republic of Korea), informed the Meetings of the main points from the joint session of the Scientific Groups under the London Convention and Protocol, held from 27 to 31 May 2013, in Buenos Aires, Argentina (LC 35/3). The report of the Scientific Groups had been circulated as document LC/SG 36/16.

REVIEW OF THE SPECIFIC GUIDELINES FOR THE ASSESSMENT OF DREDGED MATERIAL (LC 35/3/1)

3.2 The Meetings, in considering a progress report (LC 35/3/1), as provided by the Chairman of the Scientific Groups Correspondence Group on the Review of the Specific Guidelines for the Assessment of Dredged Material, noted that the correspondence group had prepared a draft revised text. The group consisted of Australia, Canada, China, Germany, Ireland, Japan, the Netherlands, New Zealand, Spain, the United Kingdom, the United States, Greenpeace International, IAPH, WODA and PIANC.

3.3 It was noted that, in May 2013, the Scientific Groups, having reviewed the work of the correspondence group, finalized and approved the draft text and agreed to forward the finalized draft *Revised Guidelines for Assessment of Dredged Material*, as set out in the annex to document LC 35/3/1, to this session of the governing bodies for adoption.

3.4 The Meetings also noted that the draft Revised Guidelines followed a different format and structure compared to previous versions, in order to better conform to current practices and experiences among Contracting Parties.

3.5 The delegation of Argentina had identified some issues with the current translation of the text, and offered to assist in the translation of the final document.

3.6 It was further noted that although the document was in principle ready for adoption, some additional comments, mainly to ensure consistency with annex 2 of the Protocol, had been identified.

ESTABLISHMENT OF THE DRAFTING GROUP ON THE REVIEW OF THE SPECIFIC GUIDELINES FOR THE ASSESSMENT OF DREDGED MATERIAL

3.7 Following a brief discussion, the Meetings established a drafting group under the lead of Ms. Linda Porebski (Canada), with the following terms of reference:

.1 using the annex to document LC 35/3/1 as the base text of the draft *Revised Specific Guidelines for the Assessment of Dredged Material* and taking into account comments made in plenary, prepare a final text for adoption by the governing bodies; and

.2 present a written report to plenary on Thursday morning, 17 October 2013.

REPORT OF THE DRAFTING GROUP

3.8 The drafting group met on 16 October 2013 under the chairmanship of Ms. Linda Porebski (Canada) and was attended by delegations from Australia, China, Japan, the Netherlands, the Republic of Korea, Thailand, the United Kingdom, Greenpeace International, IAPH and WODA.

3.9 The Meetings noted that the drafting group had considered all comments and produced a final revised text ready for adoption, with the understanding that the text still required a final editorial review by the Secretariat. Also, the photographs on the cover page would need to be attributed to the correct sources and the reference list should be checked for completeness.

3.10 The delegation of WODA extended its thanks to the Scientific Groups and, in particular, to the correspondence group and expressed its support for the conclusion of the revised document, emphasizing that it is a much improved and user-friendly document.

3.11 The Meetings thanked the United States and all those who had contributed to the revision of the Guidelines for their efforts in conducting this complex work.

ACTION BY THE GOVERNING BODIES

3.12 **Following a brief discussion, the governing bodies adopted the report of the 36th session of the LC Scientific Group and the 7th session of the LP Scientific Group, and, in particular:**

.1 adopted the *Revised Specific Guidelines for Assessment of Dredged Material*, as set out in the annex 2 to this report, and requested the Secretariat to publish the Revised Specific Guidelines in all three working languages, following final editing and layout by the Secretariat;

.2 endorsed the Scientific Groups' recommendation to prepare Guidance for developing actions lists and action levels for sewage sludge and possibly also for organic material of natural origin, using the existing guidance for fish wastes as useful direction;

.3 endorsed the Scientific Groups' approval of revised introductory paragraphs of the Generic and Specific Waste Assessment Guidelines, respectively, which completes the Review of the Framework and Approach to all "Specific Guidelines";

.4 noted, with appreciation, that both Scientific Groups had re-elected Dr. Gi-Hoon Hong (Republic of Korea) as Chairman, and Ms. Linda Porebski (Canada) as First Vice-Chairman, respectively, and had elected Captain Enrique Vargas Guerra (Chile) as the Second Vice-Chairman, for the intersessional period and for the next joint session of the Scientific Groups in 2014; and

.5 extended their thanks and appreciation to the outgoing Second Vice-Chairman, Mr. Darrell Brown (United States).

3.13 Other action points emanating from the report of the Scientific Groups, as presented in document LC 35/3, were dealt with under the corresponding agenda items.

DEVELOPMENT OF A STRATEGIC PLAN FOR THE LONDON CONVENTION AND PROTOCOL

3.14 In introducing document LC 35/3/2, the Secretariat drew attention of the Meetings to the need to review the objectives, content and relationship of a number of documents that the bodies have adopted in order to guide, prioritize and track its work, with a view to avoiding duplication and developing a useful document that would meet the overall objectives of the London Convention and Protocol. It was noted that there are three main documents dealing with strategic planning under the Convention and Protocol, namely, the Joint Long-Term Programme (JLTP) for the London Convention and Protocol; the Long-term Strategy for Technical Cooperation (LSTC) and Assistance under the London Convention and Protocol; and the Barriers to Compliance (B2C) Project Implementation Plan.

3.15 The Meetings were informed that the Scientific Groups, at their joint session in May 2013, had noted that while the three aforementioned planning documents had different purposes, they contained a number of areas of duplication. The Groups recommended that the governing bodies review the TC Strategy in relation to the B2C Project Implementation Plan and the JLTP (LC/SG 36/16, paragraphs 6.1 to 6.5, 6.28 to 6.30 and 6.42 to 6.44).

3.16 The delegation of Canada introduced document LC 35/3/3, offering additional views on the goals in the Joint Long-term Programme. It was also noted that progress towards many of these goals, including broader membership and improved reporting and compliance, may be facilitated with the development of a strategic plan for the London Convention and Protocol.

3.17 In the ensuing discussion, it was stressed that an overarching tool could help in focusing the work under the Convention and Protocol, and several delegations noted the benefits of drawing on the experiences of the IMO Strategic Plan and High Level Action Plan. A strategic plan should also contain time-bound tasks, goals and performance indicators, to guide the implementation of the plan and assist in the evaluation of the effectiveness of the two instruments.

3.18 It was also proposed that a strategic plan would not only be useful for Contracting Parties, but also for communicating the work of the Convention and Protocol to the outside world. However, while providing a degree of flexibility to adapt to new and emerging issues, a plan should also be firmly grounded in the objectives of the Convention and Protocol.

3.19 Some delegations also noted the importance of focusing on the connection between scientists and policy makers at the intergovernmental level, and to address any possible disconnects with other multilateral environmental agreements.

ESTABLISHMENT OF THE WORKING GROUP ON THE DEVELOPMENT OF A STRATEGIC PLAN FOR THE LONDON CONVENTION AND PROTOCOL

3.20 Following a brief discussion, the Meetings established a working group under the co-lead of the Vice-Chairmen, Captain Ibraheem Olugbade (Nigeria) and Dr. Gi-hoon Hong (Republic of Korea) with the following terms of reference:

.1 discuss, and if possible develop proposals for, elements for the table of contents in a future Strategic Plan for the London Convention and Protocol;

.2 develop terms of reference for an intersessional correspondence group to develop a draft Strategic Plan for the London Convention and Protocol; and

.3 present a brief written report to plenary on Thursday morning, 17 October 2013.

REPORT OF THE WORKING GROUP ON THE DEVELOPMENT OF A STRATEGIC PLAN FOR THE LONDON CONVENTION AND PROTOCOL

3.21 The co-chairs of the working group, in presenting the report of the working group (LC 35/WP.6), explained that the group had met on 14 and 15 October 2013 and was attended by delegations from Australia, Canada, Germany, the Netherlands, Nigeria, Republic of Korea, the United States and WODA.

3.22 The Meetings noted that the group had identified the following possible elements of a strategic plan:

.1 strategic directions;

.2 high-level actions;

.3 planned output;

.4 executing body;

.5 target completion year; and

.6 funding (i.e. both raising funds and allocating funds to support goals).

3.23 The working group also proposed a draft work plan and terms and reference for the intersessional correspondence group, as well as a list of base documents to be used as a starting point for the development of the strategic plan.

3.24 The Meetings noted that the elements of the strategic plan's contents, as set out in the annex to the working group report, could serve as a useful starting point for the correspondence group.

ACTION BY THE GOVERNING BODIES

3.25 **Following a brief discussion, the governing bodies:**

.1 established an intersessional correspondence group[1], under the co-lead of the two Vice-Chairmen, to develop a draft Strategic Plan for the London Convention and Protocol. The terms of reference for the correspondence group are set out in the annex 3 to this report; and

.2 requested the correspondence group to submit an interim report to the next joint session of the Scientific Groups, including an outline for their review, and to provide a full report to the next joint session of the governing bodies in 2014.

[1] The coordinators, Captain Ibraheem Olugbade and Dr. Gi Hoon-Hong, can be contacted at ibolugbade@yahoo.com and ghhong@kiost.ac respectively.

4 REGULATION OF OCEAN FERTILIZATION AND OTHER ACTIVITES

OCEAN FERTILIZATION INCIDENT

4.1 The delegation of Canada updated the Meetings on the alleged ocean fertilization incident that occurred in the summer of 2012 in waters off the Canada's west coast. As indicated to the governing bodies in 2012, it reiterated that the Government of Canada had not authorized this alleged activity nor received in advance any details from the proponent about the alleged activity that would have allowed an assessment of the project. Environment Canada's Enforcement Branch had been informed of an alleged ocean fertilization incident off Canada's west coast, in international waters, and had launched an investigation on 30 August 2012. In March 2013, Environment Canada had executed three search warrants and two production orders relating to the alleged incident. One of the parties on which a search warrant was executed has filed an application in court to have the search warrant set aside. Court proceedings relating to this are underway. The delegation highlighted that, while the execution of search warrants and production orders can mean that the current investigation is progressing, it cannot, as a matter of policy, address any specific questions regarding potential violations nor make further comments on the case, until the investigation is complete. The delegation stressed that the Government of Canada continues to take this matter very seriously and generally reaffirmed its commitment to taking the necessary measures to protect the marine environment and to actively support the London Convention and Protocol.

PROPOSAL TO AMEND THE LONDON PROTOCOL TO REGULATE PLACEMENT OF MATTER FOR OCEAN FERTILIZATION AND OTHER MARINE GEOENGINEERING ACTIVITIES

4.2 It was recalled that in 2010, the governing bodies had adopted resolution LC-LP.2(2010) on the "Assessment Framework for Scientific Research Involving Ocean Fertilization". Since that time, and in accordance with that resolution, the governing bodies continued to work towards providing a global, transparent and effective control and regulatory mechanism for ocean fertilization activities and other activities that fall within the scope of the London Convention and the London Protocol and have the potential to cause harm to the marine environment.

4.3 The delegations of Australia, Nigeria and the Republic of Korea informed the Meeting of Contracting Parties of their proposal to amend the London Protocol to regulate placement of matter for ocean fertilization and other marine geoengineering activities (LC 35/4). The delegations underlined that the proposed amendment was intended to effect a legally binding regulation of ocean fertilization and is structured to allow other marine geoengineering activities to be considered in the future, if they fall within the scope of the London Protocol and have the potential to cause harm to the marine environment. The Meeting of Contracting Parties noted that the proposed amendment, as set out in annex 1 to the document, includes the addition of a new article 6*bis*, two new annexes and a new definition for marine geoengineering.

4.4 The new article 6*bis* provides that, in relation to marine geoengineering activities listed in a new annex 4, placement of matter shall not be allowed except where its listing in annex 4 provides for the activity or subcategory of the activity to be regulated under a permit. This is a positive list approach; activities not listed in annex 4 would not be regulated by the new article 6*bis*. The new annex 4 currently contains one listing, namely, ocean fertilization, but could be amended in the future to contain further listings, as appropriate. A new annex 5 contains a generic Framework for the Assessment of Matter that may be considered for placement under annex 4 and stipulates the fundamental aspects of the assessment being conducted before a permit is to be granted. The definition of "marine geoengineering" will be

inserted as a new subparagraph 5*bis* in article 1. The proposal also requires a limited number of consequential amendments. Suggested text for these amendments is contained in annex 2 to the document. The draft text of an adopting resolution for this proposal is contained in annex 3 to the document.

4.5 The Meeting of Contracting Parties thanked Australia and the co-sponsors, Nigeria and the Republic of Korea, for their submission.

4.6 The delegation of Germany, in introducing its document (LC 35/4/3 and Corr.1) on amendment proposals to the proposal submitted by Australia and co-sponsors, highlighted that Germany generally supports the proposed amendment to the London Protocol and has provided comments, as shown in annex 1 and explained in annex 2 to this document. The Meeting noted that Germany believes that the establishment of an independent international expert group is necessary which should have two tasks: 1) to provide an independent scientific statement concerning the state of scientific knowledge before a decision is taken whether a specific activity is listed in annex 4 according to the proposal as outlined in LC 35/4; and 2) to scientifically review applications for permissions.

4.7 The Meeting thanked Germany for its comments.

4.8 In the ensuing discussion the following views were expressed:

.1 several delegations highlighted the currently inadequate international regulation of marine geoengineering and the continued risk that research experiments or full-scale deployment could be conducted without a proper assessment of effects on the marine environment or on human health and, therefore, expressed support for the proposal by Australia, co-sponsored by the Republic of Korea and Nigeria, to amend the London Protocol (LC 35/4). It was emphasized that these amendments would provide the global, transparent and effective control and regulatory mechanism for ocean fertilization and other activities that fall within the scope of the LC/CP and have the potential to cause harm to the environment;

.2 some delegations highlighted the need to first gain further experience in applying the Assessment Framework for Scientific Research Involving Ocean Fertilization before regulating other marine geoengineering activities, and expressed the view that only ocean fertilization should be regulated at this stage;

.3 there were differing views on the definition of "marine geoengineering", ranging from being completely appropriate to being too broad and having the potential to include activities that are regulated via other mechanisms; and

.4 with regard to the proposal to establish an independent international expert group, as proposed by Germany (LC 35/4/3), several delegations highlighted that creating an IIEG could have financial and sovereignty implications even if it were to be fully funded by proponents. In this regard, the need to use existing structures was suggested, with one possible example being an Ad Hoc Group under the Scientific Groups.

ESTABLISHMENT OF THE WORKING GROUP ON THE PROPOSAL TO AMEND THE LONDON PROTOCOL

4.9 The Meeting, having noted the considerable support for the tabled amendment and the comments offered by Germany and others, established a working group, under the lead of Dr. Chris Vivian (United Kingdom), with the following tasks:

.1 taking into account the comments received in plenary, review the draft texts in annexes 1 to 3 of document LC 35/4, with a view to preparing revised draft texts for the amendment and resolution, for adoption; and, in particular, focus on the following specific points:

.1 definition of "marine geoengineering";

.2 the establishment of an independent international expert group; and

.3 conclude on any remaining drafting issues.

.2 consider any advice on further action for consideration by the Meeting of Contracting Parties; and

.3 present a written report to plenary on Thursday morning, 17 October 2013.

OUTCOME OF THE WORKING GROUP

4.10 The Chairman of the working group, Dr. Chris Vivian, (United Kingdom), in introducing the report of the group (LC 35/WP.3), highlighted that the group met from 14 to 17 October 2013. In attendance were: delegations from the following Contracting Parties to the London Protocol: Australia, Canada, China, France, Germany, Japan, the Netherlands, New Zealand, Nigeria, Norway, the Republic of Korea, Spain, Sweden, South Africa, the United Kingdom and Vanuatu; delegations from the following Contracting Parties to the London Convention: Argentina, Brazil, and the United States; an observer from Thailand, a State that is neither Contracting Party to the London Convention nor to the London Protocol; as well as observers from the following non-governmental organizations: ACOPS, Greenpeace International and IUCN.

4.11 The Contracting Parties noted that the group had completed its tasks and that the draft amendment and associated draft resolution, shown in annexes 1, 2 and 3 of document LC 35/WP.3, contained no square brackets.

4.12 The Contracting Parties also noted that:

.1 the definition of "marine geoengineering" is necessarily broad so as to provide for the flexibility to respond to new activities and techniques in the future. The amendments establish a regime by which listed activities in annex 4 will be regulated. In order to be considered for a listing in the new annex 4, a proposed activity must come within the scope of the Protocol, that is, it involves the introduction of matter into the sea which has the potential to cause harm to the marine environment;

.2 it is not intended that the amendment will apply to other established legitimate uses of the sea that have effects on the marine environment, such as the direct harvesting of marine organisms; conventional

aquaculture or mariculture; the creation of artificial reefs; use of dispersants in oil spill response; or the production of energy from wind, currents, waves, tides; ocean thermal energy conversion; deep sea mining; conventional marine observation and sampling methods; and

3. in the context of article 6*bis* a permit shall only be issued for an activity if all the conditions in the proposed annex 5 (Assessment Framework for matter that may be considered for placement under proposed annex 4) are met.

4.13 The delegation of Japan stated that while it had actively contributed to the work of the group and, in particular, to ensure that all activities to promote fisheries be excluded from the draft amendment, it believed that this was not entirely accomplished and that it feared some fishing aspects could be inadvertently regulated by this amendment. While not wishing to stand in the way of consensus, Japan stressed that fisheries are an important issue from a Japanese perspective, in particular, in relation to food security and it was consequently concerned that the amendment might not be accepted by the Japanese Diet (parliament).

4.14 The delegation of Italy indicated that given the lack of experience in these matters it could not put forward a position on the proposed amendments and considered it important to continue to assess scientific and technical issues in this regard.

4.15 Several other delegations were satisfied that the draft amendment would provide the global, transparent, and effective control and regulatory mechanism for ocean fertilization and other geoengineering activities and would fulfil the commitments of the LC-LP.1(2008) and LC-LP.2(2010) resolutions.

4.16 The delegation of China recalled that the working group discussed the difference between using the word "shall" or "should" in the proposed paragraph 12*bis* of annex 5 to the London Protocol. In English those words mean something different. The working group's discussion confirmed the general understanding that in English, of these two words, only the word "shall" creates legally binding obligations.

4.17 The Meeting, having noted that the working group had not finalized its discussion on the Independent Expert Advice Group, defined in paragraph 12*bis* of annex 5, agreed to establish an intersessional correspondence group, under the lead of Germany[2], to continue to work on the arrangements under which the Independent Expert Advice Group could be operationalized, and, in particular:

.1 the focus of work would include the following aspects:

.1 required expertise

.2 criteria for the nomination of experts

.3 criteria for the selection of experts

.4 common understanding of "independent"

.5 operational arrangements

.6 involvement of other international bodies

[2] The coordinator, Dr. Harald Ginzky, can be contacted at: harald.ginzky@uba.de

.7 working conditions of experts, including potential remuneration

.8 conflict of interest

.9 budgetary implications

.2 examine options how the above mentioned arrangements could be given effect, such as Guidelines, Guidance or terms of reference; and

.3 report the results to the next Meeting of Contracting Parties.

ACTION BY THE MEETING OF CONTRACTING PARTIES

4.18 **Following a brief discussion and noting the consensus, the Meeting of Contracting Parties approved the report in general and, in particular:**

.1 adopted, in accordance with article 21 of the Protocol, resolution LP.4(8) on the Amendment to the London Protocol to Regulate Placement of Matter for Ocean Fertilization and Other Marine Geoengineering Activities, as set out at annex 4, to this report. The amendment will enter into force for those Parties which have accepted it on the 60th day after two-thirds of the Contracting Parties have deposited their instruments of acceptance with IMO; and

.2 instructed the Secretariat, in accordance with article 21.4, to inform Contracting Parties of the amendment.

4.19 The Meeting thanked the working group for its excellent work and particularly, Dr. Chris Vivian (United Kingdom) for completing this difficult task.

REPORT OF THE CORRESPONDENCE GROUP TO DEVELOP A GUIDANCE ON A PROCEDURE FOR CONSIDERING THE INCLUSION OF NEW ACTIVITIES IN A PROPOSED NEW ANNEX 4 TO THE LONDON PROTOCOL

4.20 The Meeting of Contracting Parties considered document LC 35/4/1 (United Kingdom) describing the results of the correspondence group's work to develop further potential text for guidance on a "procedure" for the listing of new activities in the proposed new annex 4 to the London Protocol. The group comprised Argentina, Australia, Brazil, Canada, Germany, Japan, the Netherlands, Norway, the Philippines, the Republic of Korea, the United Kingdom (lead), the United States, Vanuatu, Thailand and Greenpeace International. The Meeting noted that the annex to LC 35/4/1 contained the consolidated results of all the responses from the two rounds of correspondence, with key comments from the correspondence group members inserted where appropriate.

4.21 The Meeting thanked the United Kingdom for its submission and hard work.

4.22 Following a brief discussion, the Meeting forwarded the draft Guidance to the working group dealing with the proposal to amend the London Protocol and instructed the group, time permitting, to review the draft text of the guidance once it had completed its work on the proposed amendment to the London Protocol.

4.23 The Meeting noted that the working group had met on 17 October 2013 under the chairmanship of Dr. Chris Vivian (United Kingdom) and that the following Contracting Parties to the London Protocol had been in attendance: Australia, Canada, China, France, Germany,

Japan, the Netherlands, New Zealand, Nigeria, Norway, the Republic of Korea, Spain, Sweden, South Africa, the United Kingdom and Vanuatu. Delegations from Argentina, Brazil, Thailand, the United States, ACOPS, Greenpeace International and IUCN were also in attendance.

ACTION BY THE MEETING OF CONTRACTING PARTIES

4.24 **The Meeting, having noted that the group had made considerable progress in reviewing the draft text of the "Guidance for considering the inclusion of new activities in annex 4 to the London Protocol", as set out in annex 5 to this report, agreed to establish an intersessional correspondence group, under the lead of the United Kingdom[3], to complete this work, with a view to submitting a finalized draft text, for adoption, at the next Meeting of Contracting Parties in 2014.**

SCIENCE OVERVIEWS ON OCEAN FERTILIZATION

4.25 It was recalled that, in 2010, the governing bodies had adopted resolution LC-LP.2(2010) on the "Assessment Framework for Scientific Research Involving Ocean Fertilization", with the understanding that the framework should be reviewed at appropriate intervals in light of new and relevant scientific information and knowledge and in light of experience in applying the framework". It was also recalled that, in 2012, the governing bodies, having noted the offer by the delegation of the United States to lead on the development of a (web-based) repository of references relating to the application of the Assessment Framework which would be accessible to LC-LP Parties, invited the Scientific Groups to review the progress made on this matter and to provide advice to this session of the governing bodies, as appropriate (LC 34/15, paragraphs 4.25 to 4.27).

4.26 The Meetings considered document LC 35/4/2 (United States), providing an update on progress in developing the web-based repository of references relating to the application of the Assessment Framework.

4.27 The Meetings noted that progress had been good, but that further work needed to be undertaken in the intersessional period. Contracting Parties were also invited to visit the prototype document repository at https://sites.google.com/site/lclpofdocs/ and to provide comments, as they deem appropriate. Comments should also be sent to the Chair of the correspondence group, Dr. Marian Westley (United States), by sending an email to marian.westley@noaa.gov.

4.28 The Meetings thanked the United States for its efforts so far and invited it to report on the work of the correspondence group to the Scientific Groups for review.

OTHER ISSUES RELATED TO MARINE GEOENGINEERING

4.29 The Meetings noted the information provided by the United Kingdom (LC 35/INF.2) on marine geoengineering techniques. It was noted that the annex to this document contained a significant update of the 2010 document (LC 32/4) and contained a brief summary of marine geoengineering techniques that have been proposed to date as approaches that potentially could help in addressing climate change. It illustrates the wide range and diversity of marine geoengineering techniques that have been proposed. Since they all depend on modifying the ocean in some way to have their desired effect, they all have the potential to have harmful effects on marine ecosystems. The references in the text of the annex all have hyperlinks to the original source for the publications concerned so that the reader can consult the source documents.

[3] The coordinator, Mr. Philip Stamp, can be contacted at: Philip.stamp@defra.gsi.gov.uk

4.30 The Meetings also noted the information provided by the Executive Secretary of the Secretariat of the Convention on Biological Diversity (CBD) on the topic of climate-related geoengineering and, in particular, on a number of studies published in CBD Technical Series relating to policy, technical and regulatory matters (LC 35/J/4). Further information can be found at: http://www.cbd.int/climate/geoengineering/.

5 CO_2 SEQUESTRATION IN SUB-SEABED GEOLOGICAL FORMATIONS

REVIEW OF THE CO_2 SEQUESTRATION GUIDELINES

5.1 It was recalled that in 2009, the Meeting of Contracting Parties had adopted resolution LP.3(4) "on the amendment of article 6 of the London Protocol" and invited the LP Scientific Group, inter alia, to consider the need for amendments to the *Specific Guidelines for Assessment of Carbon Dioxide Streams for Disposal into Sub-seabed Geological Formations*, in short, the CO_2 Sequestration Guidelines. It was also recalled that in 2012 the Meeting had adopted the *Revised CO_2 Sequestration Guidelines* (LC 34/15, annex 8), which had been developed by the Scientific Groups, and had established an intersessional correspondence group, under the lead of Canada (LC 34/15, paragraph 5.12), to:

.1 further consider the annex to those Revised Guidelines and the draft text entitled: "Development and implementation of arrangements or agreements for the export of CO_2 streams for storage in sub-seabed geological formations", with a view to finalizing consideration of the Revised Guidelines before the amendment to article 6 of the London Protocol enters into force; and

.2 consider what the status or purpose of the draft text would be (e.g. guidance, legal interpretation of LP article 6).

5.2 The Meeting reviewed the report of the correspondence group contained in document LC 35/5 (Canada) and considered the revised draft text on this subject, as contained in the annex. It was noted that Australia, Canada, Germany, Japan, the Netherlands, New Zealand, Norway, Panama, the Philippines, the Republic of Korea, South Africa, Thailand and the United States had participated in the correspondence group as well as the following observer representatives: the International Energy Agency, the Carbon Capture and Storage Association, and the International Association of Oil and Gas Producers.

ESTABLISHMENT OF THE WORKING GROUP TO REVIEW THE SEQUESTRATION GUIDELINES

5.3 Following a brief discussion, the Meeting established a working group under the lead of Ms. Anne Daniel (Canada) with the following terms of reference:

.1 review the draft text as set out in annex to document LC 35/5 and, taking into account comments received in plenary, finalize the draft text and prepare advice accordingly for consideration by the Meeting of Contracting Parties; and

.2 present a written report to plenary on Thursday morning, 17 October 2013.

REPORT OF THE WORKING GROUP TO REVIEW THE SEQUESTRATION GUIDELINES

5.4 The working group met on 15 October 2013 and was attended by delegations from Australia, Canada, China, Germany, Japan, the Netherlands, Norway, the Republic of Korea, Thailand, Greenpeace International and OECD-IEA (LC 35/WP.5).

5.5 The Meeting noted that the working group had discussed the draft text and made further minor revisions as shown in the annex to document LC 35/WP.5.

5.6 The delegation of Spain pointed to the need for clarifications regarding the issuance of permits by a ship flying the flag of a Contracting Party that loads a CO_2 stream in the territory of a non-Contracting Party and exports this to a third State which is also a Contracting Party. However, according to paragraph 3.5.1.2 of the guidance, each export scenario should be considered in order to define responsibilities in respect of the permits; this could strictly lead to a Protocol contravention. Therefore, it would be appropriate to continue assessing in detail this kind of inconsistencies that could be caused by the new amendment to article 6 of the Protocol and its current provisions and to look for legally consistent solutions.

ACTION BY THE MEETING OF CONTRACTING PARTIES

5.7 **Based on the report of the working group and the discussions in plenary, the Meeting of Contracting Parties:**

.1 approved the report of the working group in general (LC 35/WP.5);

.2 adopted the "Guidance on the implementation of article 6.2 on the export of carbon dioxide streams for disposal in sub-seabed geological formations for the purpose of sequestration", as amended, in principle, subject to the entry into force of the article 6 amendment, and as set out in annex 6 to this report; and

.3 instructed the Secretariat to append the *Guidance to the Revised CO_2 Sequestration Guidelines* and circulate to Contracting Parties, as appropriate. It should also be placed on the LC-LP website.

5.8 The Meeting expressed their appreciation for the efficient work done on this issue and in particular to Ms. Anne Daniel (Canada).

PROGRESS WITH THE RATIFICATION OF THE 2009 AMENDMENT TO ARTICLE 6

5.9 In light of the fact that so far only two Parties have accepted the 2009 amendment to the Protocol, delegations were invited to inform the Meeting about progress on this issue.

5.10 The delegation of the Netherlands informed the Meeting that it is still in the process of ratification of the 2009 amendment and expects to be able to submit the proposals to the parliament by mid-2014.

5.11 The delegation of Canada informed the Meeting that steps have been taken towards establishing enabling legislation to effect the 2009 amendment and that ratification may be possible in 2014.

5.12 **The Meeting noted the need to expedite the ratification of the amendment and encouraged all Contracting Parties to do their utmost to facilitate this process to ensure entry into force as soon as possible.**

EXPERIENCES WITH CO_2 SEQUESTRATION TECHNOLOGIES AND THEIR APPLICATIONS

5.13 It was recalled that the governing bodies have benefited, since 2008, from regular updates by Parties of their experiences with CO_2 sequestration technologies and their application. This commitment has led to very informative reports in recent years both to the governing bodies and to the Scientific Groups.

5.14 The delegation of Norway informed the Meeting about two carbon dioxide capture and storage (CCS) sites that are in operation in Norway. The Meeting noted that Sleipner, in the North Sea, has been in operation since 1996, while the other, Snøhvit, in the Barents Sea, has been in operation since 2008. In both cases the source of CO_2 is natural gas which is cleaned of CO_2 before the gas is further processed. The storage capacities are 1,000,000 tonnes/year and 730,000 tonnes/year, respectively. Storage formations are a saline aquifer and the lower zone of the gas reservoir, respectively. The storage sites are monitored by seismic surveys every two years, in addition to daily monitoring of well pressure and other operational criteria.

5.15 The Meeting also noted that the Government of Norway had recently decided that a long-lasting project that would lead to a full-scale CCS plant at Mongstad – an oil refinery with gas power plant – be discontinued. The reasons for ceasing this project were mainly related to high cost and complexity of the industrial site, leading to the conclusion that it would not serve as a good example for future projects. The Government is currently investigating if other industrial sites or plants are more suitable for CCS than Mongstad. The Government remains committed to having one full-scale CCS plant ready for operation by 2020. The Meeting further noted that the Norwegian Petroleum Directorate has investigated the CO_2 storage potential of the Norwegian continental shelf of the North Sea and the Norwegian Sea and concluded that the potential storage capacity is very large and suitable for receiving CO_2 from Europe.

5.16 The delegation of the United Kingdom informed the Meeting that the United Kingdom Government remains committed to encouraging the development of full-scale CCS in the power sector. The Government's strategy envisages supporting commercial scale demonstration projects through a mixture of capital support and incentives to stimulate investment in all low carbon generation through reform of the electricity market. Currently, the United Kingdom is in detailed discussion with developers about the detailed design and subsequent construction of two demonstration projects from about 2015, as well as discussing the incentives necessary to bring forward additional projects without capital support on a similar timescale. The two demonstration projects are:

.1 Peterhead Project: A post-combustion project involving capture facilities retrofitted to 340 MW capacity of a 1180 MW gas-fired power station (Combined Cycle Gas Turbine), located at Peterhead, northeast Scotland, with offshore storage in a depleted gas field. The project is led by Shell and Scottish & Southern Energy. Further information on the project can be found at: http://www.shell.co.uk/gbr/environment-society/environment-tpkg/peterhead-ccs-project.html; and

.2 White Rose Project: A pre-combustion project involving a new 304 MW supercritical coal-fired power station (Oxyfuel) with full CO_2 abatement, located at the existing Drax power station site in Yorkshire, northeast

England, with offshore storage in a saline aquifer. The project is led by Alstom, and involves Drax, BOC and National Grid. Further information on the project can be found at http://www.whiteroseccs.co.uk/about-white-rose. The United Kingdom has issued rights and licences to explore one prospective offshore storage sites. Neither has yet undertaken storage.

5.17 The observer from OECD/IEA updated the Meeting on IEA's and IEAGHG's policy and technical work associated with CCS. The Meeting noted that IEA continues to see CCS as a critical component of a low-carbon energy system. Its Energy Technology Perspectives 2012 publication sees CCS contribute one-sixth of CO_2 emission reductions required in 2050 in a climate stabilisation – or 2°C scenario (2DS) – and 14 per cent of cumulative emissions reductions between 2015 and 2050, compared to a business-as-usual approach. Based on current government policy, energy use and CO_2 emissions are set to almost double by 2050, consistent with an average global temperature rise of 6°C. In the 2DS, CCS plays an important role in reducing emissions from both electricity generation and industrial applications.

5.18 The Meeting noted that in July 2013, IEA had released an update to its 2009 Technology Roadmap: Carbon Capture Storage, which highlights that the individual component technologies required for capture, transport and storage are generally well understood and, in some cases, technologically mature (e.g. capture from natural gas sweetening and hydrogen production, transport by CO_2 pipeline). It also highlights that safe and effective storage of CO_2 has been demonstrated. CCS is ready for scale-up: the key challenge now is to accelerate learning through further integrated, large-scale projects. To achieve this, government policy efforts, including introducing strong and credible emissions reduction targets, will be key. Today, over 20 CCS projects are in operation or in advanced stages of planning. By 2030, the roadmap envisages over 30 large projects; this expands significantly in the 2DS out to 2050, to see 7Gt CO_2 stored in that year. The roadmap outlines seven key actions to 2020 to lay the foundation for scaled-up CCS deployment, five of which are policy-related, including, amongst others:

.1 implementing further financial support mechanisms for demonstration and early deployment of CCS, to drive private financing of projects;

.2 implementing policies that encourage storage exploration, characterization and development for CCS projects and efficient development of CO_2 transport infrastructure; and

.3 resolving outstanding legal issues related to the transboundary movement of CO_2 for storage under the London Protocol.

5.19 The Roadmap is available at:
www.iea.org/publications/freepublications/publication/name,39359,en.html.

5.20 The Meeting also noted that the IEA continues to support governments in implementing enabling frameworks for CCS, both through the IEA International CCS Regulatory Network, which provides a neutral forum for CCS regulators, policy makers and stakeholders to share updates and views on CCS regulatory developments, and through its annual update on CCS regulation, the *IEA Carbon Capture and Storage Legal and Regulatory Review*[4]. The fourth edition of this publication is due for release in the next month.

[4] Further information is available at:
www.iea.org/topics/ccs/ccslegalandregulatoryissues/ieainternationalccsregulatorynetwork/

5.21 The IEAGHG runs several research networks relevant to CCS and the marine environment. There has recently been a combined meeting of the Monitoring Network and the Environmental Research Network hosted by CO2CRC in Canberra in August. There was a dedicated session on "Marine detection monitoring and environmental impacts'" with six presentations and discussion. The Meeting noted the advances in offshore monitoring for seabed features and leakage detection, the results from the QICS controlled release project including recovery of sediment and seabed geochemistry and ecosystems, and the processes in the overburden which will attenuate any CO_2 migration out of the storage reservoir. Presentations are available at http://www.ieaghg.org/networks/monitoring-network/7-networks/monitoring-network-members-area/31-monitoring-network-members-area.

5.22 The report of the meeting of the Environmental Research Network has been published "Building Knowledge for Environmental Assessment of CO_2 Storage: Controlled Releases and Natural Releases Workshop", IEAGHG Report 2013/02 (Jan 2013). Given the recent advances, next year IEAGHG will commence a review of offshore monitoring techniques. IEAGHG is a participant in the ISO Technical Committee on CCS TC 265. The working group on storage is using as a seed document the Canadian Standard for CO_2 geological storage Z741 and is working to ensure this will be applicable offshore as well as onshore. The other working groups will also include offshore applications.

5.23 The Meeting further noted that IEAGHG runs the largest conference on CCS, the GHGT series. GHGT-12 will take place in Austin, Texas in October 2014, and the call for abstracts is now open with a submission deadline of 10 January 2014. Abstracts relating to offshore CCS would be welcomed; for more information see http://www.ghgt.info/index.php/Content-GHGT12/ghgt-12-submit-paper.html.

5.24 The Meeting further noted that several studies on transporting CO_2 by ships have been conducted and are available at: http://www.globalccsinstitute.com/.

5.25 **The Meeting thanked all delegations for the information they had shared and encouraged Contracting Parties to inform the governing body about relevant developments, including direct experience in the use of the *Revised CO_2 Sequestration Guidelines*, through submissions to the next session.**

6 COMPLIANCE ISSUES

CONSIDERATION OF THE REPORT OF THE 6TH MEETING OF THE COMPLIANCE GROUP (LP)

6.1 The Chairman of the Compliance Group, Ms. Robyn Frost (Australia), introduced the report of the 6th meeting of the Compliance Group (LC 35/WP.2), which is reproduced, as amended, in annex 7 to this report.

6.2 The Chairman explained that the Group had, as in the previous meetings, focused mainly on systemic issues of non-compliance as no individual submissions on non-compliance had been received. In her report, the Chairman emphasized, among other issues, that the Chairman of the B2C Steering Group, Ms. Anne-Marie Svoboda (the Netherlands), as well as the co-chairs of the Correspondence Group on Low-Tech Monitoring, Dr. Andrew Birchenough (United Kingdom) and Ms. Suzanne Agius (Canada), had attended the meeting as observers in order to facilitate dialogue between these different groups.

6.3 Among other issues, the Chairman highlighted the in-depth discussion by the Group on a number of observations on reporting submitted by the Correspondence Group on Assessment of Dumping Reports, including ways to make data and information on dumping more useful and more accessible.

6.4 The Meeting noted the continued decline in levels of reporting, for both Convention and Protocol Parties (LC 35/INF.4). In this context, the delegation of Spain noted the low levels of reporting by countries party to the Barcelona Convention, despite resources being available within that framework for this specific purpose. The Meeting of Contracting Parties requested the Secretariat to liaise with the Secretariat of the Barcelona Convention to ascertain if any dumping reports were available.

6.5 The delegation of Canada requested that the future work plan of the Group be amended to include the contribution of the Compliance Group to the intersessional Correspondence Group on the Development of a Strategic Plan for the London Convention and Protocol.

6.6 The Meeting stressed the benefits of a continuous dialogue with the B2C Steering Group. In this respect, the Chairman of the B2C Steering Group stated that she would liaise with the Chairman of the Compliance Group for input on the revised PowerPoint presentations (see agenda item 7).

6.7 It was also noted that the Compliance Group would prefer to meet during the weekend prior to the Meeting of Contracting Parties. However, given the current budgetary restrictions, such arrangements were unlikely to be approved by the IMO Council, and it was therefore suggested, as an option, to look at alternative ways to structure the timetable during the joint Meetings in order to make it possible for the delegations to attend both plenary and working group sessions.

6.8 The delegation of Saudi Arabia emphasized the benefits of having the members of the Compliance Group participate in regional workshops, to share their expertise and experiences. The Meeting, therefore, decided to add this recommendation, subject to the availability of resources, to the future work programme of the Compliance Group.

6.9 **Following this discussion, the Meeting of Contracting Parties:**

.1 approved the report of the Compliance Group, as set out in annex 7 to this report, and the recommendations therein, and agreed to the proposed work programme of the Compliance Group for the period up to and including its 7th session in 2014, as amended; and

.2 reiterated that a reporting rate of less than 50 per cent is not acceptable, and encouraged all Parties to work to improve this situation.

6.10 The Meeting thanked the Compliance Group for its efforts and expressed its appreciation to all its members, in particular the Chairman, Ms. Robyn Frost, for their excellent work.

ELECTION OF MEMBERS OF THE LONDON PROTOCOL COMPLIANCE GROUP

6.11 It was recalled that the 2nd Meeting of Contracting Parties had adopted, in 2007, the Compliance Procedures and Mechanisms pursuant to article 11 of the London Protocol and that in 2012 the Contracting Parties had previously elected:

.1 Prof. Young Sok Kim (Republic of Korea), elected for three terms in 2012, expiring in 2015;

.2 Ms. Zhao Lei (China), elected for three terms in 2012, expiring in 2015;

.3 Prof. Takahiro Ichinose (Japan), elected for three terms in 2011, expiring in October 2014;

.4 Ms. Radia Razack (South Africa), elected for three terms in 2011, expiring in October 2014;

.5 Mrs. Carla Pike (United Kingdom), elected for three terms in 2010, expiring at the end of this meeting;

.6 Ms. Robyn Frost (Australia), elected for three terms in 2011, expiring in October 2014;

.7 Dr. Felicia Chinwe Mogu (Nigeria), elected for three terms in 2012, expiring in 2015;

.8 Ms. Anja Elisenberg (Norway), elected for three terms in 2012, expiring in 2015; and

.9 Mr. Wendly Ellis (Suriname), elected for two terms, expiring in 2014.

ELECTION OF MEMBERS FOR FUTURE SESSIONS OF THE COMPLIANCE GROUP

6.12 The Meeting noted that no new nominations had been received. Contracting Parties were, therefore, invited to nominate candidates in time for the next Meeting.

6.13 To assist LP Parties, the Meeting reconfirmed the existing agreement whereby any of the five United Nations regions which did not provide three members for the current session could do so in the intersessional period with the approval of the Chairman and two Vice-Chairmen of the Meeting of Contracting Parties (LC 31/15, paragraph 6.7).

6.14 Furthermore, the Meeting requested Contracting Parties to ensure that Compliance Group members nominated by them received their full support for the terms for which they were elected, so as to enable the proper functioning of the Group.

IMPLEMENTATION OF THE STRATEGY TO IMPROVE REPORTING UNDER THE LONDON CONVENTION AND PROTOCOL

Dumping Reports

6.15 The Meetings noted that the Secretariat, as instructed, had circulated the final compilation report on dumping permits for 2009 as LC-LP.1/Circ.55, and the new invitation to report on dumping permits issued in 2012 as LC-LP.1/Circ.60. This circular is based on the new reporting formats, adopted last year, and includes a report on monitoring activities. The new reporting format is now also available on the LC-LP website. It was noted that a number of Parties had already provided dumping data for 2012 on the new reporting format. Draft compilation reports for permits issued in 2010 and 2011 were presented to the Scientific Groups in May 2013.

Incident Information Reports

6.16 No reports of incidents have been received by the Secretariat in the last 12 months. It was noted that a revised "Reporting Procedure of observed dumping incidents which may be in violation of international ocean dumping treaties" was circulated to Parties in February 2012 (LC-LP.1/Circ.47) and was placed on the LC-LP website.

Database development and GISIS Reporting Module

6.17 The Meetings were informed that the development of the new reporting module in IMO's Global Integrated Ship Information System (GISIS) is nearing finalization, and would hopefully be available for access by the Contracting Parties before the end of the year.

COMPLIANCE WITH THE NOTIFICATION AND REPORTING REQUIREMENTS UNDER ARTICLE VI(4) OF THE CONVENTION AND ARTICLE 9.4 OF THE PROTOCOL

6.18 The Secretariat informed the Meetings that the annex to document LC 35/INF.4 showed the extent to which Contracting Parties had notified the Secretariat of the annual reports on their dumping activities from 1976 up to and including 2011. The meetings noted that since the issuance of document LC 35/INF.4, additional reports and/or corrections to previous reports had been provided by Australia, Cyprus, Japan, Mexico, Sweden and the United Kingdom.

6.19 The Meetings expressed their appreciation to Guatemala, who had recently submitted reports covering the last 37 years, which should serve as inspiration and example for other Contracting and prospective Parties.

6.20 The Meetings further noted that since the entry into force of the Convention in 1975 the overall response rate of Contracting Parties remains at slightly less than 50 per cent. This issue needed to be kept on the agenda of the Compliance Group as well as the B2C Steering Group.

6.21 With respect to the annex to document LC 35/6/2, the Meetings noted that 36 Parties had not reported in the past five years (2007-2011), compared with 32 non-reporting Contracting Parties, measured over the period 2006-2010. The total, therefore, remains fairly constant, pointing to systemic reporting problems amongst some administrations.

REVIEW OF THE COMPILATION REPORTS ON DUMPING PERMITS ISSUED IN 2010 AND 2011

6.22 The Secretariat informed the Meetings that document LC 35/6 sets out the final draft compilation report containing data on permits issued in 2010, which the Secretariat had updated since the previous session of the governing bodies. The Secretariat also informed the Meetings that document LC 35/6/1 sets out the first draft summary report on dumping permits issued in 2011.

6.23 The Meetings noted that the Secretariat intended to release the final 2010 report before the end of January 2014, following a quality check on the data, and taking into account any further submissions of dumping reports (before the end of December 2013). The report will be posted on the London Convention and Protocol website as soon as practicable thereafter. The Secretariat would also submit a final draft compilation report for 2011, for which submissions were requested before the end of March 2014, and a first draft compilation report for 2012 for consideration by the Correspondence Group on Assessment of Dumping Reports, after which they would be submitted to the next session of the Scientific Groups in 2014 for review.

ACTION BY THE GOVERNING BODIES

6.24 **In conclusion, the governing bodies:**

.1 urged all Parties, if they have not done so, to provide the Secretariat with their annual reports, including NIL reports that indicate no dumping activities in a particular year, as soon as possible;

.2 encouraged States to continue to reach out to neighbouring countries who are not reporting and to offer assistance in preparing the reports on dumping activities; and

.3 instructed the Secretariat to:

.1 taking into account comments or amendments made, publish the 2010 compilation report in early 2014; and

.2 submit a final draft 2011 compilation report to the Scientific Groups for their review and a first draft 2012 compilation report to the Correspondence Group on Assessment of Dumping Reports for its review.

REPORTS ON COMPLIANCE MONITORING ACTIVITIES

6.25 The Meetings recalled that, in 2007, the governing bodies had discussed the issue of "Monitoring for Convention and Protocol purposes" under this agenda item as these compliance issues are submitted directly to the governing bodies. Activities related to research and assessment (field monitoring) are of particular interest to the Scientific Groups.

6.26 The Meetings also recalled that Contracting Parties to both the Convention and the Protocol had been invited to submit reports on compliance monitoring to this session, as these reports would not only be important to show that the goals of dumping policies and permit conditions were met, but would also show to a wider audience that the London Convention and Protocol are effective agreements. Such reports would also offer valuable information for the LP Compliance Group.

6.27 The Meetings, having noted that no reports had been submitted in recent years, invited Parties to both the Convention and the Protocol to submit reports on compliance monitoring to the next session of the governing bodies.

7 TECHNICAL COOPERATION AND ASSISTANCE

IMPLEMENTATION PLAN OF THE "BARRIERS TO COMPLIANCE" PROJECT

7.1 The Meetings recalled that, last year, the governing bodies had reviewed the execution and planning of various activities under the "Barriers to Compliance" (B2C) Project. In this connection, the Meetings noted requests for technical assistance from: Algeria, the East African Region (Nairobi Convention), Egypt, the Gulf Region (ROPME), Indonesia (follow-up to national workshop held in December 2011), Islamic Republic of Iran, Nicaragua (COCATRAM), the Russian Federation and Senegal.

7.2 The Meetings considered document LC 35/7, which provided a progress report on current projects supported by the Secretariat, as well as an overview of B2C national and regional workshops that were held since 2012 and those that are planned for 2014. It was noted that several LC/LP projects were completed in 2012, and that with the project on riverine and marine discharge of mine tailings (LC/LP and UNEP GPA) completed earlier this year, there is currently only one project active, which concerns the development of a data portal for the LC/LP Electronic Reporting Format, in cooperation with IMO and its Global Integrated Ship Information System (GISIS). This project, which was initiated in late 2011, is expected to be completed by late 2013.

7.3 The Meetings noted that in February 2013, the Secretariat, in cooperation with the Nigerian Maritime Administration and Safety Agency, NIMASA, had conducted a national workshop in Lagos, Nigeria. Furthermore, the Secretariat, in cooperation with the Prefectura Naval of Argentina, successfully completed the Latin America Regional Workshop on the London Protocol in May 2013, prior to the joint session of the Scientific Groups. The reports of both these workshops have been finalized and will be placed on the LC-LP website shortly.

7.4 The Meetings also noted that the Secretariat had identified a number of new requests for workshops under the B2C Project, namely Chile, Ghana and Peru, which are in addition to those already received (refer to paragraph 7.1 above). However, taking into account recent pledges and remaining funds, it is envisaged that, without further pledges, only one or two activities could be implemented.

7.5 The Meetings noted, with appreciation, the offer of financial support to the B2C project from the Republic of Korea. All Contracting Parties were encouraged to make donations to the LC-LP Trust Fund, in order to facilitate further technical assistance activities.

7.6 The delegation of India, in stressing its interest to accede to the Protocol, informed the Meetings that it intended to hold a national workshop, possibly during 2014 or 2015, on the London Protocol and requested assistance with this activity.

7.7 Furthermore, the delegation of the Islamic Republic of Iran notified its willingness to host a regional workshop for the Caspian Sea and the Persian Gulf, and requested this to be included in the plan of activities.

7.8 The Meetings were informed of a number of initiatives that the Secretariat is undertaking in support of the technical cooperation and assistance for the Convention and Protocol. These included:

.1 discussions with the French Global Environment Facility (Fonds Français pour l'Environnement Mondial (FFEM)) regarding possible funding of the London Protocol work under the B2C Project activities;

.2 activities under the Agreement between IMO and the Norwegian Agency for Development Cooperation (NORAD) on "Assistance to East Asian countries in ratifying and implementing IMO instruments for the protection of the marine environment"; and

.3 discussions with the World Bank regarding the Global Partnership for Oceans (GPO), which IMO has formally signed up to.

7.9 The Meetings noted that the initiatives to raise funding and support are complementary. Some are mainly intended for future workshops and capacity building, whereas others are more targeted interventions in a specific country, such as the IMO-NORAD project.

7.10 Furthermore, the Meetings noted the need to establish a roster of experts for technical cooperation and assistance activities to promote the London Protocol, as highlighted in circular LC-LP.1/Circ.59. When implementing activities in countries that are not English speaking, the limited number of experts available to deliver the LP training materials in other languages, most notably French, Spanish and Arabic, is clearly presenting an obstacle.

7.11 Contracting Parties were therefore encouraged to identify possible experts in their respective countries and ask these to submit their CVs to the Secretariat, as well as registering online at http://roster.imo.org.

FOLLOW-UP EVALUATION QUESTIONNAIRE FOR REGIONAL OR NATIONAL WORKSHOPS UNDER THE "BARRIERS TO COMPLIANCE" PROJECT

7.12 The Meetings recalled that, in 2010, the governing bodies had adopted a "Follow-up Evaluation Questionnaire" developed by the Chairman of the B2C Steering Group, which would be forwarded to workshop participants sometime after the conclusion of a regional or national workshop, to evaluate the effectiveness of past national or regional workshops on the London Convention and Protocol.

7.13 The Meetings noted that in the workshops held in 2013 in Nigeria and Argentina, the IMO system for evaluation had been used, since IMO funds were used to cover part of the costs. Although this system is slightly different than the one developed for the LP purposes, it would still provide the information and feedback needed.

7.14 The Meetings were informed that in Nigeria, 65 replies were received during the workshop itself, and in Argentina 19 replies. The participants in these workshops will be contacted by IMO, approximately six months after the activity for a post-activity questionnaire.

ACTION BY THE GOVERNING BODIES

7.15 **The governing bodies noted that given the earlier low-response rate to questionnaires, it could be useful to wait for the outcome of the post-evaluation and then assess how this evaluation system works for the purpose of the LC/LP. The governing bodies instructed the Secretariat to continue to distribute the LC/LP follow-up questionnaire, or when appropriate the IMO post-workshop questionnaire, to past participants and to provide an analysis of the responses to the next session of the Scientific Groups in 2014 for their review.**

STATUS OF REVISIONS TO NATIONAL OR REGIONAL WORKSHOP POWERPOINT PRESENTATIONS

7.16 The Meetings recalled that the governing bodies had requested the B2C Correspondence Group to revise the PowerPoint presentations for national and regional workshops.

7.17 The Chairman of the B2C Correspondence Group, Ms. Anne-Marie Svoboda (the Netherlands), informed the Meetings that the B2C Correspondence Group, with participation of Canada, Chile, Ireland, the Netherlands, Nigeria, the Republic of Korea, the United Kingdom, the United States and the Secretariat, had made significant progress with the revisions.

7.18 The new set of presentations will provide a toolbox of building blocks for the upcoming workshops. For any national or regional workshop, it will be possible to choose presentations from these modules, based on the country, region, or specific group of participants (e.g. policymakers, permitting authorities). So far, all the presentations have been reviewed for content, consistency and repetition and will be updated accordingly in the intersessional period.

7.19 The Meetings noted the kind offers from Chile and Guatemala to assist with the translation of the final PowerPoint presentations into Spanish, and from Brazil to translate the presentations into Portuguese.

STATUS REPORTS ON OTHER TECHNICAL COOPERATION ACTIVITIES BEING CARRIED OUT OR CONCLUDED

Progress with the implementation of the Low-Tech WAG communication plan

7.20 The Meetings recalled that in October 2011, the governing bodies had adopted the WAG Tutorial Extension and instructed the Secretariat to make this test document available on the LC-LP website and through distribution to existing and prospective Contracting Parties and to ports and harbours for use on a provisional basis. Comments and suggestions arising from the trial period could be made until 31 December 2012 and would be collated by the Secretariat and forwarded to the authors for review.

7.21 It was further recalled that the Scientific Groups had been invited to review comments received to date and were also invited to develop a communication plan for this tutorial Extension, which was finalized and approved during the meeting of the governing bodies last year.

7.22 It was noted that, in May 2013, the Scientific Groups had concluded that the Plan had been implemented, with the final publication of the document on the LC-LP website as a downloadable product as the last aspect to be completed. A flyer may need to be developed to assist in the uptake of the document. If funds become available, the Secretariat could produce a hard-copy version for distribution at workshops.

Progress with and plans for bilateral technical cooperation projects between countries, as reported by Contracting Parties and Non-Contracting Parties

7.23 The Meetings discussed the importance of sharing experience between Parties, as well as with prospective Parties, i.e. so-called "twinning", and noted the ongoing efforts between Nigeria and South Africa to share experiences with the implementation of the Protocol.

7.24 It was also noted that the recent efforts of Guatemala, including the preparation of reports on dumping for the last 37 years, could serve as a very useful case study for other countries.

RE-ESTABLISHMENT OF THE B2C STEERING GROUP

7.25 The Meetings noted that Mr. Patrick Cotter, who had served as the Chairman of the B2C Steering Group for the last three years, had retired from his post in the United States Government earlier in 2013, which means that he is no longer available to serve on the B2C Steering Group.

7.26 The governing bodies confirmed the chairmanship of Ms. Anne-Marie Svoboda, the Netherlands, who had acted as an interim Chairman of the Group since the joint session of the Scientific Groups in May 2013.

7.27 The Meetings reconvened the B2C Project Steering Group, with the following terms of reference:

.1 using annex to document LC 35/7/1 and taking into account new requests for assistance, donor pledges and comments made in plenary, review the "Implementation Plan";

.2 review the implementation of the Low-Tech WAG Tutorial Extension Communication Plan;

.3 review the draft revised PowerPoint presentations for national and regional workshops;

.4 prepare recommendations on any action to take; and

.5 provide a written report to plenary on Thursday morning, 17 October.

REPORT OF THE B2C STEERING GROUP

7.28 The Chairman of the B2C Steering Group, Ms. Anne-Marie Svoboda (the Netherlands), informed the Meetings that the Group had met on 16 October 2013 and was attended by delegations from Canada, Chile, the Republic of Korea, Thailand, the United Kingdom and WODA (LC 35/WP.8).

7.29 The Meetings noted that the Group had updated the Implementation Plan including additional requests and proposals for workshops. The updated plan, as amended, is attached in the annex 8 to this report. In the discussions, WODA had raised the point that the Implementation Plan initially comprised of an array of activities but recently has been primarily focused on the conduct of workshops. It was suggested that more attention should be given to follow-up activities after workshops and other capacity-building activities.

7.30 The Meetings also noted the discussion on the use of case studies and "twinning arrangements", and the possibility for cooperation through various regional mechanisms, such as the Permanent Commission for the South Pacific (CPPS, the Central American Commission of Maritime Transport (COCATRAM) and the Operative Network for Regional Co-operation among Maritime Authorities of the Americas (ROCRAM).

7.31 The Meetings further noted the Steering Group's view that the Low-Tech WAG Tutorial Extension Communication Plan should be a living document that would benefit from periodic review, with the aim of eventually developing a more strategic approach for the communication plan. Suggestions such as a promotional flyer, accessibility on the internet, a PowerPoint presentation and identifying further case studies for incorporation into the document were discussed, which would fit well with the tailor-made approach for workshops proposed in document LC 35/7.

7.32 The Meetings noted the discussion on the draft revised PowerPoint presentations for national and regional workshops, summarized in paragraphs 7.16 to 7.19 above.

7.33 Finally, the Meetings noted the proposal from Thailand to host a regional workshop in the period 2014-2015 to follow up on the outcomes of the workshop held in 2011.

ACTION BY THE GOVERNING BODIES

7.34 **Having reviewed the report of the B2C Steering Group, the governing bodies approved the report in general (LC 35/WP.8) and instructed the Group to:**

.1 review the B2C Implementation Plan, and liaise with the Secretariat regarding funding opportunities of future projects[5];

[5] The B2C Steering Group Chairman, Ms. Svoboda, can be contacted at: amsvoboda@rws.nl

.2 develop a structure for the use of case studies and "twinning arrangements", taking into account the aspects of the lack of reporting and other barriers to compliance issues, and aligning with other relevant regional agreements or arrangements;

.3 periodically review the Low-Tech WAG Communication Plan; and

.4 finalize the review of the PowerPoint presentations and overall structure of the national and regional workshops, including the translation of the presentations, as kindly offered by Chile, Guatemala and Brazil, and initiate a communication plan for the implementation of this work in the national and regional workshops.

7.35 The Meetings thanked the B2C Steering Group for its efficient work and, in particular, Ms. Anne-Marie Svoboda, for her excellent leadership in this regard.

8 INTERPRETATION OF THE LONDON CONVENTION AND PROTOCOL

COOPERATION WITH MEPC ON SHIP HULLS' SCRAPING

8.1 It was recalled that, in 2009, the Scientific Groups had agreed that hull scraping activities outside a controllable dockyard environment, with the attendant risk of uncontrolled release of anti-fouling paint flakes and fouling organisms, should be an issue for future discussion in the Joint LC-LP/MEPC Working Group on Boundary Issues.

8.2 It was noted that MEPC 62 had adopted the *2011 Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species* (resolution MEPC.207(62)) to provide a globally consistent approach to managing biofouling, including useful recommendations on general measures to minimize the risks associated with biofouling for all types of ships. It was also noted that the Guidelines specifically advise on in-water cleaning of hulls and draw attention to the possible release of large and distinct biofouling (e.g. barnacles, tubeworms or fronds of algae) that could generate waste or debris that may create a pulse of biocide with the potential to harm the local environment. Biocide in the sediments could affect future applications by the port authority for the disposal of dredge spoil. It was further noted that MEPC had approved the "Guidance for evaluating" the 2011 Guidelines which could be used to assess the implementation of the 2011 Guidelines (circulated as MEPC.1/Circ.811).

8.3 The Meetings noted that while the issue had been resolved from a mariners' perspective (that is from the perspective of MARPOL and the AFS Convention), it remained an issue for the LC-LP community since the organisms or coatings that fall to the seabed could potentially interfere with dredging and dredged material disposal operations. It was also noted that various types of equipment to remove and collect biofouling from vessels were on the market and some systems for platforms were under development.

ACTION BY THE GOVERNING BODIES

8.4 **Following a brief discussion the governing bodies endorsed the conclusions by the Scientific Groups and invited the Groups to review whether the 2009 "Guidance on Best Management Practices of removal of TBT Paints from Ships" (LC-LP.1/Circ.31) required an update to take into account in-water scraping of hulls, or whether a stand-alone Guidance would need to be developed for the benefit of Ports and Harbour constituents. Delegations were encouraged to continue to liaise with their representatives in MEPC on this issue, as appropriate, and to prepare submissions to the next meetings of the Scientific Groups.**

COOPERATION WITH MEPC ON BOUNDARY ISSUES – MANAGEMENT OF SPOILT CARGOES

8.5 It was recalled that, in 2009, MEPC had adopted a fully revised Guidance on managing spoilt cargoes that was issued as a joint LC-LP/MEPC circular to replace Circular Letter No.2074 on the same topic (LC-LP.1/Circ.30 and MEPC.1/Circ.688). The Guidance was made available to the MEPC correspondence group which was reviewing MARPOL Annex V (Garbage) and preparing the Guidelines for the implementation of Annex V, so that the main conclusion of the Guidance could be noted in any updates to MARPOL Annex V and/or its Implementation Guidelines. The governing bodies further agreed to the development of outreach material to ensure a greater uptake of the Guidance (i.e. a plain language flyer and an IMO training module).

8.6 It was also recalled that, in 2012, the governing bodies had approved an updated Guidance document on managing spoilt cargoes incorporating recent MARPOL Annex V revisions and had forwarded this to MEPC 65 for approval. The governing bodies had also re-established the correspondence group, under the lead of the United States, to continue to develop outreach and training materials and to forward this material to the Scientific Groups for review (LC 34/15, paragraphs 8.1 to 8.9; LC/SG 35/15 paragraphs 8.7 to 8.16). In May 2013, MEPC 65 approved the updated Guidance, which was issued in July 2013 as LC-LP.1/Circ.58 and MEPC.1/Circ.809.

8.7 The Meetings considered document LC 35/8, submitted by the Chairman of the correspondence group, Mr. Darrell Brown (United States), and noted that the Group had prepared draft presentations for training purposes and a Flyer summarizing the major points to consider when managing spoilt cargo. This information was reviewed by the Scientific Groups in May 2013 who recommended that further work on the presentations be conducted by the Barriers to Compliance Project, under the leadership of the Netherlands, as part of reviewing a larger set of presentations for national and regional workshops. It was noted that the correspondence group included representatives from Argentina, Australia, Canada, Japan, Panama, Thailand, the United Kingdom, the United States, the International Chamber of Shipping and the International Association of Ports and Harbors.

ACTION BY THE GOVERNING BODIES

8.8 **Following a brief discussion, the governing bodies:**

.1 approved the flyer on "Guidance on the Management of Spoilt Cargoes", as shown in annex 9 to this report; and

.2 instructed the Secretariat to forward the flyer to the next session of MEPC, for information and subsequent distribution and use in technical cooperation and capacity-building activities, as appropriate.

8.9 The Meetings thanked the working group for its excellent work and particularly, Mr. Darrell Brown for his diligence over the last few years in completing this task.

COLLABORATION WITH UNEP-GPA ON RIVERINE AND SUB-SEA DISPOSAL OF TAILINGS AND ASSOCIATED WASTES FROM MINING OPERATIONS

8.10 It was recalled that, in 2012, the governing bodies had noted the continued efforts by the Secretariat, in cooperation with UNEP-GPA, to determine the type and extent of riverine and sub-sea disposal of tailings and associated wastes from mining operations, as well as the associated environmental controls in place, due to the limited success of the information collection efforts in previous years (LC-LP.1/Circ.35 and additional direct correspondence with some countries with an active mining industry). It was also recalled

that the governing bodies noted a preliminary report on the "Report on riverine and sub-sea disposal of tailings and associated wastes from mining operations" that had been prepared by a consultant, Craig Vogt Inc.

8.11 The Meetings were informed that the final report had been received and made available on the LC-LP website and submitted to the Scientific Groups for their review (http://www.imo.org/blast/blastData.asp?doc_id=14533&filename=Mine%20Tailings%20Marine%20and%20Riverine%20Disposal%20Final%20Report%20November%2030.pdf).

8.12 The Meetings were also informed that the Scientific Groups, having reviewed the final report (LC/SG 36/16, paragraph 8.28), had:

.1 agreed that there was a need for international guidance and/or codes of conduct to be developed on the issue. However, it was not clear which international body should lead on this aspect, particularly given that the UNEP-GPA has redirected its focus elsewhere; and

.2 recommended that the governing bodies encourage all countries to carefully evaluate all proposals for the discharge and placement of mine wastes into the marine environment; to evaluate alternatives and to avoid, where possible, the use of such operations (consistent with London Protocol annex 2, paragraphs 5 and 6); and, where applicable, to utilize best management practices to ensure that any impacts on the marine environment are minimized, and to monitor the marine environment to confirm that this is the case.

8.13 The Meetings noted that some interest had been shown by other United Nations agencies. In this regard, the Office for the London Convention and Protocol organized, in cooperation with the United Nations Industrial Development Organization (UNIDO), a seminar/side-event during the recent 40th session of GESAMP – the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. GESAMP decided to pursue the issue on behalf of the sponsoring agencies (UNIDO, IMO, IAEA, UNEP), and to develop a scoping paper in preparation for discussions at next year's session. This would include a consideration of recognized knowledge gaps, such as the importance of adequately describing the receiving environment, the behaviour of slurries underwater, physical smothering, ecotoxicological effects and recovery times. GESAMP also agreed to investigate options for holding a workshop to which representatives of mining companies, peak industry bodies, licensing authorities, technical experts, potential funders and other interested parties could be invited. The IAEA kindly offered to host such a workshop in Monaco. Alternatively a workshop could be held in either South East Asia, Australia or South America, where current operations are taking place or are planned. UNIDO offered support to prepare the scoping report and workshop, taking into account UNIDO's interest in artisanal mining. IMO also offered support and suggested that a link to the wider LC/LP process might attract industry support.

8.14 The delegation of Norway reiterated the reservations it had expressed in May 2013 in relation to paragraphs 8.27 and 8.28 of the Scientific Groups' report (LC/SG 36/16) and, in particular:

.1 supported the general message relating to strict management of marine disposal of mine wastes and agreed that international guidance on marine disposals from mining operations could be useful, while noting that gathering further existing information would be important before developing new guidance(s); and

.2 agreed that it remains an open question which organization(s) would be the most appropriate to develop international guidance or codes of conduct, given that the dumping provisions under the London Convention and the Protocol do not apply to internal waters of States, and that all countries should carefully evaluate all proposals for discharge and placement of mine wastes into the marine environment, on a case by case basis, evaluating alternatives with the aim to find the best overall environmental solution.

8.15 Norway stressed the importance of monitoring requirements to make sure that the environmental impacts are being kept under surveillance.

8.16 The delegation of Chile highlighted that Chile is committed to sustainable development and has a robust environmental institutional framework that aims to reconcile the various economic activities with environmental protection and social welfare development. Chile is aware that mining activities generate waste tailings and while tailings disposal is mostly on land, they must be disposed in specific areas complying with the regulations in force. However, when land use is restricted or limited, it is necessary to look for feasible alternatives. In this context, one possibility is the disposal of tailings at sea. To date, no deep sea tailings placement (DSTP) has been used, however, a project of DSTP was recently submitted for a full environmental impact assessment. In this regard Chile recently established a national working group, bringing together relevant governmental institutions. Chile views that international experiences of DSTP, as an alternative to land-based tailings, are inconclusive, making it impossible to adopt a definitive position on this issue. Consequently, in the event that it is decided to promote any international initiative on DSTP, it would seem appropriate that it be developed within the framework of the IMO. In this case, Chile would like to cooperate jointly with the States participating in this forum, in order to take appropriate measures to advance this work.

Establishment of the informal working group

8.17 Following a brief discussion the governing bodies established an informal working group under lead of Mr. Rodrigo Urquiza (Chile), to develop terms of reference and a plan of action for an intersessional correspondence group.

Outcome of the informal working group

8.18 The Chairman, Mr. Rodrigo Urquiza (Chile), highlighted that the informal working group had completed its work as instructed. It was noted that the following delegations had attended the group: Canada, Chile, Costa Rica, Germany, Japan, Norway, Peru, Spain, ACOPS, Greenpeace International, IUCN and WODA.

ACTION BY THE GOVERNING BODIES

8.19 **In conclusion, both governing bodies noted the report of the informal working group and established the correspondence group on riverine and sub-sea disposal of tailings and associated wastes from mining operations, under the lead of Mr. Rodrigo Urquiza[6] (Chile) using the terms of reference, as set out in annex 10 to this report.**

6 The coordinator, Mr. Rodrigo Urquiza, can be contacted at: rurquiza@minmineria.cl

OTHER ISSUES

8.20 The observer representative from Greenpeace International introduced document LC 35/8/1 entitled "Seabed mining: update on the state of development and environmental concerns". The Meetings noted two recent publications reviewing the state of development, environmental concerns and limits to regulation in this field. The governing bodies were invited to consider the possibility of dialogue with the International Seabed Authority aimed at greater harmonisation of controls for marine environment protection.

8.21 The representative from ACOPS informed the Meetings that the International Marine Minerals Society (http://www.immsoc.org), which coordinated the development and sponsored the adoption of the Code for Environmental Management of Marine Mining (http://www.immsoc.org/IMMS_code.htm), will discuss the decision of the governing bodies on this topic at the next meeting (21 October 2013) of its Executive Board, with a view to determining how the expertise of the Society can best be deployed to assist the governing bodies on the issue. ACOPS will advise the Secretariat of the outcome of this meeting and any follow-up, initially through participation by ACOPS in the correspondence group.

8.22 **Following a brief discussion the governing bodies:**

.1 noted the need to continue building a better understanding of this issue, in particular, with respect to areas falling outside the scope of the ISA and which may be of direct relevance to the scope of the London Convention and Protocol; and

.2 requested the Secretariat to liaise with the ISA and other relevant organizations and to keep the governing bodies informed of any developments, as appropriate.

8.23 The delegation of the Republic of Korea provided an update on its action to phase out disposal of sewage sludge at sea. The governing bodies noted that further progress had been made and 90 per cent of the sewage sludge is now being rerouted to energy recovery plants. A complete phasing out of the disposal of sewage sludge at sea is expected by the end of 2015. At the provincial level, meetings have been held to get a sense of the phasing-out process for each industry.

8.24 The Meetings thanked the Republic of Korea for this update, and they also encouraged Contracting Parties to provide their experiences or case studies on sewage treatment facilities and sewage sludge management on land to the next session of the Scientific Groups in 2014, and to report their discussions back to the governing bodies next year.

8.25 The Meetings noted the Scientific Groups' discussion on accidental releases of hazardous and noxious substances (HNS) in the marine environment (Republic of Korea), underwater noise (OGP, OSPAR, CEDA and USACE), plastic wastes and plastic marine debris (United States) (LC/SG 36/16, paragraphs 8.34 to 8.45)**.**

9 MATTERS RELATED TO THE MANAGEMENT OF RADIOACTIVE WASTES

DEVELOPMENT OF A SYSTEM FOR ENVIRONMENTAL PROTECTION FROM THE EFFECTS OF IONIZING RADIATION

9.1 It was recalled that following adoption of the IAEA Guidance on how to conduct specific assessments under step 6 of the *(1999) Guidelines for the Application of the de minimis Concept under the London Convention 1972*, the London Convention governing

body, in 2003, urged the IAEA to develop a similar system for environmental protection from the effects of ionizing radiation that could be incorporated into step 6 (LC 21/13, annex 6; and LC 25/16, paragraph 8.20). It was also recalled that, in 2012, the governing bodies had noted that the IAEA work on the regulatory procedure of this system had been completed and that the procedure had been thoroughly reviewed by LC/LP experts at a meeting hosted by IAEA (LC 34/15, paragraphs 9.1 to 9.9).

9.2 The Meetings noted that a new version of the IAEA TECDOC, which incorporates the complete procedure for assessing material containing low levels of radionuclides, had been circulated at the end of 2012 and was made available to Contracting Parties for a period of testing, after which time it would be formally submitted for approval by the governing bodies at this session.

9.3 The delegation of the United Kingdom, in introducing its document LC 35/9 on this topic, reported that it no longer had concerns with the methodology used in the revised IAEA system and was willing to approve the IAEA Guidance.

9.4 The representative from IAEA, Mr. Diego Telleria, by way of background information, provided the Meetings with an historical overview of the process to prepare the final report on Determining the Suitability of Materials for Disposal at Sea under the London Convention and London Protocol: A Radiological Assessment Procedure. The Meetings were reminded that it took 10 years for the IAEA to develop this complementary assessment procedure for protecting flora and fauna and that there were many challenging scientific aspects along the way, including the fact that the principles, criteria and methodology were not developed until 2009 by the International Commission on Radiation Protection (ICRP). The international regulations were updated by IAEA in 2011, when the International Basic Safety Standards for Radiation Protection and Safety of Radiation Sources were published. The Meetings noted that the IAEA had followed a transparent process to develop the method, discussing the details with the technical representatives from the Contracting Parties to LC/LP, and had provided for a testing period during which no issues were identified and tests were carried out successfully.

ACTION BY THE GOVERNING BODIES

9.5 **Following a brief discussion, the governing bodies:**

.1 approved the Final Draft IAEA Guidance on Determining the Suitability of Materials for Disposal at Sea under the London Convention and London Protocol: A Radiological Assessment Procedure (IAEA TECDOC-1375) incorporating the methodology to assess radiological doses to flora and fauna for the purpose of the London Convention and Protocol (LC/LP);

.2 invited the Scientific Groups to recommence that preparatory work, in terms of developing a work plan, scope and timelines, so that the 2003 *Guidelines for the Application of the de minimis Concept* can be updated for both the London Convention and Protocol; and

.3 thanked the IAEA and, in particular, Mr. Diego Telleria, for the excellent and cooperative work conducted over this time.

INVENTORY OF WASTE DISPOSALS, ACCIDENTS AND LOSSES AT SEA INVOLVING RADIOACTIVE MATERIALS

9.6 It was recalled that, in 2006, the governing bodies agreed to update the following two inventories regarding radionuclides lost at sea, as coordinated by IAEA:

.1 radioactive waste disposal at sea; and

.2 accidents and losses at sea involving radioactive material.

9.7 It was also recalled that, in 2007, IAEA invited Contracting Parties to provide it with any new information relevant to the objectives of both the London Convention and Protocol for these two inventories. In 2012, the governing bodies noted that a revised combined inventory would be disseminated after final comments had been received by the IAEA, before the end of December 2012, so that a completely updated IAEA TECDOC could be forwarded to the governing bodies in 2013, for information.

9.8 The representative from IAEA, Mr. Diego Telleria, informed the Meetings that following a period of record verification by IAEA Member States, it was noted that several records needed further investigation. As a result, the combined inventories are expected to be published in 2014.

BARGE-MOUNTED TRANSPORTABLE NUCLEAR REACTORS

9.9 It was recalled that, in 2011 and 2012, the governing bodies had noted that IAEA was preparing a report on the subject of Transportable Nuclear Power Plants (TNPP) – entitled "Legal and Institutional Issues for TNPPs", which upon completion would be provided to the IMO for consideration (LC 34/15, paragraphs 9.14 and 9.17).

9.10 The Meetings were informed that the Secretariat had received a pre-publication copy of this report, which had been approved for publication by the IAEA Publication Committee but was still with the Publishing Section for final editing. As a consequence, the report was not yet available to the IAEA Member States nor to LC/LP Parties. IAEA would officially circulate the text to the Contracting Parties of the London Convention/Protocol in the near future. Following a preliminary review by the Secretariat, it was concluded that the report does not contain any reference to the disposal of any wastes from such plants. It is envisaged that if IAEA develops a standard for TNNPs, Mr. Diego Telleria would be in charge of the wastes and discharges part, and in that case he would exchange relevant information with IMO and keep the governing bodies up to date on developments in this regard.

OTHER RELEVANT ISSUES

9.11 The delegation of China informed the Meetings about the outcomes of the recent PICES working group on Radionuclide Science and Environmental Quality of Radiation in the North Pacific, held in Canada. The Meetings noted that the results of this workshop would be forwarded to the Scientific Groups in 2014, for their information.

10 MONITORING FOR THE PURPOSES OF THE LONDON CONVENTION AND PROTOCOL

CONTRIBUTION TO AND PROGRESS MADE UNDER THE UNITED NATIONS REGULAR PROCESS

10.1 It was recalled that, in recent years, the governing bodies had noted progress reports of the United Nations Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including socio-economic aspects, the so-called World Ocean Assessment (formerly known as the UN Regular Process).

10.2 The Meetings were updated on a report submitted to the Scientific Groups (LC/SG 36/7/1) on progress with the World Ocean Assessment in general. It was noted that a trust fund had been established for the purpose of supporting the operations of the first five-year cycle of the World Ocean Assessment. However, the funding remains a major hurdle. During the sixty-seventh session of the United Nations General Assembly in 2012, delegates were reminded that without additional funding it would not be possible to provide financial assistance to experts to attend future meetings of the World Ocean Assessment. Furthermore, the Ad Hoc Working Group of the Whole recommended that the General Assembly consider any need to strengthen the capacity of the Division of Ocean Affairs and the Law of the Sea, as the secretariat of the World Ocean Assessment. The draft timetable for the first global integrated World Ocean Assessment has been revised, which estimates the report to be published in late 2014 and considered by the General Assembly during its seventieth session in late 2015.

10.3 Since the Meetings of the governing bodies last year, several regional workshops have been held under the auspices of the United Nations in support of the World Ocean Assessment. Furthermore, the 4th Meeting of the Ad Hoc Working Group of the Whole was held from 22 to 26 April 2013, at the United Nations Headquarters, New York. The reports from these workshops and meetings, together with all other information regarding the World Ocean Assessment, can be accessed at: http://www.un.org/Depts/los/global_reporting/global_reporting.htm

ACTION BY THE GOVERNING BODIES

10.4 **The governing bodies instructed the Secretariat to provide an update to the Meetings at their next joint session in 2014.**

PROGRESS WITH THE "MONITORING AND ASSESSMENT PROJECT" IN RELATION TO SEA DISPOSAL ACTIVITIES CARRIED OUT SINCE 1996

10.5 It was recalled that, in 2010, the governing bodies, having considered the report of the Monitoring and Assessment Project, had noted that the findings pointed, inter alia, to deficiencies in reporting under the London Convention and Protocol. They had agreed to give first priority to the development of a clear, concise and simplified field-monitoring reporting format, taking the revised Generic Guidelines as the point of departure. In 2011, the governing bodies, having considered the same report, had noted that many developing countries might benefit from practical advice on monitoring methods, equipment and standards, particularly in light of the adoption of the Revised Electronic Reporting Format which would contribute to achieving compliance with reporting requirements under the LC and LP. In this regard, the governing bodies had instructed the Scientific Groups to report on specific actions that could be taken to further improve reporting on monitoring activities (LC 33/15, paragraphs 10.1 to 10.11).

10.6 The Meetings also recalled that, in 2012, having further considered the report of the "Monitoring and Assessment Project", the governing bodies had agreed that there was a need for low-cost and low-technology (low-tech) field monitoring techniques in countries where capacity to conduct such monitoring was not available, as well as related implementation guidance, and instructed the Secretariat to forward a preliminary review on monitoring techniques and equipment to the Scientific Groups for further consideration. The governing bodies also encouraged delegations to provide submissions on associated low-cost, low-tech field monitoring techniques to the Scientific Groups for consideration, in order to initiate the development of Guidance on low-tech field monitoring techniques as a priority topic, with the anticipated completion in 2014 (LC 34/15, paragraphs 10.8 to 10.12).

10.7 The Meetings noted that the Scientific Groups, in May 2013 had stressed the usefulness of the information provided and reiterated that the development of low-tech guidance on field monitoring could greatly assist many contracting and prospective parties. The Meetings endorsed the Scientific Groups' agreement to establish an intersessional correspondence group on the Development of Guidance on Low-technology Field Monitoring, under the lead of the United Kingdom, to: identify the key issues to consider when developing a monitoring programme; provide a short progress report to the next meeting of the governing bodies; and provide a full report on its progress to the Scientific Groups at their next joint session in 2014.

10.8 The delegation of the United Kingdom informed the Meetings of progress made and that the correspondence group comprises of the following delegations: Canada, China, Ireland, Italy, Japan, Nigeria, the Republic of Korea and the United States. However, the Meetings agreed that it would be beneficial to have additional delegations participating, particularly those countries in which this guidance may be used. It was noted that some universities and research institutes may have valuable experiences in low-tech monitoring techniques that the correspondence group could draw on.

10.9 The Meetings endorsed the group's terms of reference and its proposal to prepare the following guidance documents, which will identify key issues to consider when developing low-tech field monitoring and compliance monitoring programmes:

.1 dredged material and inert, inorganic material;

.2 fish waste, organic material of natural origin and sewage sludge;

.3 vessels, platforms and bulky wastes; and

.4 compliance techniques (addressing all wastes).

10.10 The Meetings agreed that CO_2 streams will not be addressed, as it was considered that low-tech guidance is not appropriate for those activities.

10.11 The Meetings endorsed the group's definition of low-technology monitoring as: "Monitoring using simplified methods that enable the collection of the minimum information needed to begin validating permit assumptions". Techniques considered as "low-technology" will thus be characterized by:

.1 low cost of development and implementation;

.2 ease of development and deployment;

.3 simple-to-use automated devices; and

.4 practical, readily available (through purchase or borrowing) equipment (including as much specificity as possible to identify particular types of equipment).

10.12 It was noted that the correspondence group would continue its intersessional work by revising the draft outline for the four documents. The delegation of Canada kindly offered resources to hire a contractor to help expedite the drafting of reports, and the group aims to present drafts of the compliance techniques and the field monitoring guideline for dredged material and inert, inorganic material to the next joint session of the Scientific Groups in 2014.

ACTION BY THE GOVERNING BODIES

10.13 **Following a brief discussion, the governing bodies:**

.1 endorsed the Scientific Groups' recommendation that, given the scope and amount of work that needs to be done, the overall date to complete this work would be 2016; and

.2 encouraged delegations to provide submissions on associated field monitoring techniques to the Scientific Groups for consideration at their next joint session in May 2014.

10.14 Finally, the Meetings noted the information provided to the last joint session of the Scientific Groups by the United Kingdom on monitoring activities (LC 35/3, paragraph 4.21); as well as the information provided by China, the United States and the United Kingdom on research results and new monitoring techniques (LC 35/3, paragraph 4.23).

11 OUTREACH TO PROSPECTIVE NEW CONTRACTING PARTIES TO THE PROTOCOL AND RELATIONS WITH OTHER ORGANIZATIONS IN THE FIELD OF MARINE ENVIRONMENTAL PROTECTION

11.1 It was recalled that, in recent years, the governing bodies had considered several reports on outreach activities in the form of focused national or regional workshops held to promote the London Protocol, mostly co-organized by Contracting Parties and the Secretariat. Other outreach activities were reported by Contracting Parties, international organizations, the Chairman and Vice-Chairmen and the Secretariat in their roles as "ambassadors" promoting and explaining the London Protocol and its importance. Additionally, several Contracting Parties agreed to serve as focal points for promoting the London Protocol in a regional context. As is customary, these Parties were invited to report on such activities under this agenda item. Outreach remains a key element of the Technical Cooperation Strategy, and the link between the Convention and Protocol and other organizations in the field of marine environmental protection.

REPORTS FROM REPRESENTATIVES OF INTERNATIONAL ORGANIZATIONS

11.2 The delegation of Italy informed the Meetings of the progress under the Barcelona Convention. It was noted that the 18th Ordinary Meeting of the Contracting Parties will take place in Istanbul, Turkey, from 3 to 6 December 2013, where Ministers will consider a decision to call for an urgent entry into force of the amendments to the Mediterranean Dumping Protocol. These amendments are consistent with the London Protocol and as a consequence it will be appropriate for the Mediterranean countries to ratify the London Protocol. More information about the work under the Barcelona Convention can be found at: http://www.unepmap.org

11.3 The delegations of Spain and the United Kingdom informed the Meetings of the progress under OSPAR and noted, in particular, the Meeting of Contracting Parties to the OSPAR Convention, held in July 2013 in Gothenburg, Sweden, and the recent development in some of the technical OSPAR committees. It was noted that institutional constraints still seem to impede the accession to the London Protocol, and that this seemed to be an issue shared among many regions. More information can be obtained at http://www.ospar.org

11.4 The delegation of Peru informed the Meetings of the progress under the Lima Convention, emphasizing several national initiatives, including: a national contingency plan to manage oil spills and others noxious liquid substances; a national policy on coastal

management that includes aspects focusing on sustainable development with an ecosystem approach, in order to mitigate social conflicts related to territory use; and a national reserve, covering more than 140,000 hectares along the Peruvian coastline. It was also mentioned that actions related to marine biodiversity, climate change and ballast water management are being carried out, as well as the development of a national system for environmental education. More information about the work in relation to the Lima Convention can be found at: http://www.cpps-int.org/

11.5 The delegation of Chile informed the Meetings of its efforts to develop a work programme to share experiences within the region on the implementation of IMO instruments, including the London Convention and Protocol.

11.6 The Secretariat informed the Meetings about the 15th Global Meeting of the Regional Seas Conventions and Action Plans. The meeting, which was held in Jamaica from 30 September to 1 October 2013, provided an opportunity to present potential areas and opportunities for further cooperation on LC/LP issues, as well as direct dialogue with several of the stakeholders. The Secretariat will follow up with the Regional Seas Conventions and Action Plans to sustain and hopefully improve this dialogue in the future.

11.7 **In conclusion, the governing bodies thanked all delegations that spoke and invited them to continue contributing to the outreach activities and play an ambassadorial role for the London Protocol in their respective forums and report back on the results to the next Meetings.**

REVIEW OF A LIST OF CURRENT AND PROPOSED LONDON CONVENTION AND PROTOCOL PUBLICATIONS

11.8 The Secretariat informed the Meetings how several proposed documents were progressing, including:

.1 the London Protocol Manual and the Low-Tech WAG Tutorial for Dredged Material would be published early next year. It was noted the manuscript is being translated into Chinese by China;

.2 an overview of CO_2 Sequestration in Sub-seabed Geological Formations under the London Protocol, including transboundary decisions, will be published next year;

.3 the Low-Tech WAG Tutorial will be published in late 2013 or early 2014;

.4 an updated publication containing the texts of the London Convention and Protocol, with a target date for completion in 2014; and

.5 the *2012 Guidelines for the development of action lists and action levels for Fish Waste* had been published in English in October 2013, with Spanish and French versions to follow shortly.

11.9 **The governing bodies thanked the Secretariat and instructed it to continue its work on the publications as planned in consultation with interested Parties.**

REVIEW OF THE LONDON CONVENTION AND PROTOCOL WEBSITE

11.10 The Secretariat informed the Meetings that the old website has been in a state of suspended animation due to the fact that IMO moved its platform to Sharepoint. As a consequence, the Secretariat could not update the website, and the entire site is in the process of being moved to the IMO site, under the Marine Environment section. It was also noted that interactive materials, video clips, pictures and links would greatly improve the new website, and those delegations that could share such materials were requested to contact the Secretariat.

11.11 **In conclusion, the governing bodies instructed the Secretariat to continue improving the website, taking into account comments made in the plenary, and to provide an update on progress achieved for the next session of the governing bodies.**

REVIEW OF PROGRESS ON COLLABORATIVE ARRANGEMENTS

11.12 The Meetings noted that the Secretariat had not concluded any new, formal partnerships with other intergovernmental organizations, but that the Secretariat is ready to explore any new collaborative arrangements if needed.

11.13 The Secretariat informed the Meetings that the existing collaborative arrangement with the International Ocean Institute (IOI) is expected to be renewed. The Secretariat also explained that IMO is a partner in the Global Partnership for Oceans (GPO), where London Convention and Protocol matters are part of the remit. Similarly, IMO is one of the partners in the UNEP-GPA-led Global Partnership on Marine Litter (GPML), where IMO, together with FAO, are leading on the topic of sea-based sources of marine litter, which would also cover some issues in relation to the Convention and Protocol.

11.14 **The governing bodies instructed the Secretariat to report back on progress on this topic to the next joint session of the governing bodies.**

REPORTS FROM REPRESENTATIVES OF INTERNATIONAL ORGANIZATIONS ON THEIR ACTIVITIES IN THE FIELD OF MARINE ENVIRONMENT PROTECTION

11.15 The Secretariat informed the Meetings that GESAMP had held its 40th session in Vienna, Austria, hosted by UNIDO, from 9 to 13 September 2013. The full report of the session will be published by UNIDO as GESAMP Reports and Studies No.88 and circulated to the London Convention and Protocol focal points in the national administrations in due course.

11.16 The Meetings noted that GESAMP had approved the final manuscript of the 2nd edition of GESAMP Reports and Studies No.64 "The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships", prepared by Working Group 1 (WG 1) on the "Evaluation of hazards of harmful substances carried by ships". It was also noted that GESAMP had agreed that the methodology for Working Group 34 (WG 34), "Review of proposals for approval of ballast water management systems that make use of active substances", will be published in the GESAMP Reports and Studies series in the near future.

11.17 Furthermore, Working Group 38 (WG 38) on "Atmospheric inputs of chemicals to the ocean" continued examination of anthropogenic atmospheric inputs of nitrogen to the oceans and so far produced four scientific, peer-reviewed papers, with a further nine in preparation.

11.18 The Meetings also noted that Working Group (WG 40) on the "Sources, fate and effects of micro-plastics in the marine environment – a global assessment", had completed its second meeting, hosted by IMO, from 23 to 27 July 2013. The working group, which has attracted significant interest from the public, including co-financing from the private sector, is well on track to finalize its tasks and plans to launch its final report at the 2nd International Ocean Research Conference, Barcelona, Spain, in November 2014.

11.19 GESAMP is one of the partners in the GEF full-size project on Transboundary Waters Assessment (TWA), which was initiated in January 2013 and is due to run until December 2014. As its contribution to the TWA project, GESAMP has been requested to provide an update of its Reports & Studies No.79, entitled "Pollution in the open oceans: a review of assessment and related studies", published in 2009. For the purpose of its contribution to this project, GESAMP has established a Task Team, which held a first scoping meeting at IMO from 6 to 7 August 2013.

11.20 Lastly, it was noted that the 41st session of GESAMP will be held at the World Maritime University in Sweden, in early September 2014. Further information about GESAMP's activities can be obtained by visiting http://www.gesamp.org.

12 ADMINISTRATIVE ARRANGEMENTS AND FUTURE WORK

REVIEW OF THE JOINT LONG-TERM PROGRAMME FOR THE PERIOD 2014 TO 2016

12.1 The Meetings noted that the Joint Long-term Programme (JLTP) for 2013-2015 had been distributed as LC-LP.1/Circ.54 covering, as far as possible, all activities agreed by the governing bodies.

12.2 Both governing bodies, having reviewed progress made in implementing the JLTP for 2013-2015 (annex of LC-LP.1/Circ.54), instructed the Secretariat to update the JLTP for the period 2014-2016, in the light of achievements during the current session, for distribution in all three working languages and for posting on the London Convention and Protocol website.

12.3 The JLTP was further discussed within the context of the development of a strategic plan for the Convention and Protocol, under agenda item 3.

JOINT WORK PROGRAMME OF THE SCIENTIFIC GROUPS

12.4 The Chairman of the Scientific Groups informed the Meetings about the Joint Work Programme of the Scientific Groups, as shown in their report (LC/SG 36/16, annex 6), and emphasized that the following items would remain high-priority issues:

.1 guidance for the development of Action Lists and Action Levels for annex 1 wastes: sewage sludge and possibly organic waste of natural origin;

.2 assessment of compliance and field monitoring reports including the development of guidance on monitoring/reporting;

.3 marine geoengineering, including ocean fertilization;

.4 publication of the WAG TS Low-Tech Extension and implementation of the communication plan for this Extension;

.5 review and improvement of reporting;

.6 update of the *2003 Guidelines for the application of the de minimis concept*; and

.7 discharge of mine tailings into marine waters and the risks of industrial wastes kept in storage near the coast.

12.5 With regard to "Science Day 2014", to be held during the 37th session of the LC Scientific Group and the 8th session of the LP Scientific Group, the Meetings noted the topic that was recommended by the Scientific Groups.

12.6 **Following a short discussion, the governing bodies:**

.1 confirmed that the topic for "Science Day 2014" would be "Coastal Resilience: The Role of Habitat Loss, Alteration and Restoration";

.2 invited the Scientific Groups to prepare a recommendation on the topic for "Science Day" in 2015; and

.3 approved the Joint Work Programme of the Scientific Groups, as amended, as shown in annex 11 to this report, and instructed the Secretariat to update the document to reflect the outcomes of the Meetings of this week.

REPORT ON THE LC-LP TRUST FUND FOR TECHNICAL COOPERATION ACTIVITIES

12.7 It was recalled that, on 1 December 2009, the Secretary-General of IMO had established, at the request of the governing bodies, the voluntary London Convention and Protocol Technical Cooperation Trust Fund that would be used to collect and administer funds approved by the governing bodies for that purpose. The Trust Fund had been inaugurated on 1 January 2010 and LC/LP National Focal Points had been informed of this by circular LC-LP.1/Circ.33 and Rev.1. The Meetings also noted that recently IMO had changed its bank and new banking details would be made available to any donors through IMO's invoicing system. Donors were encouraged to contact the Secretariat as and when pledges were made.

12.8 The Secretariat provided the Meetings with an audited statement of incomes and expenditures for 2012. It was noted that the Trust Fund had a balance of $55,309 as at 31 December 2012. The Meetings noted that not all expenditures for particular workshops were shown, as some activities had been supported by the IMO-ITCP.

12.9 The Meetings noted that the audited IMO financial statement on income and expenditures of the Trust Fund's fourth year of operation (that is over 2013) would become available in June 2014.

12.10 **In conclusion, the governing bodies instructed the Secretariat to report in 2014 both on the audited statement for the 2013 incomes and expenditures and on an informal projection for the activities administered under the Trust Fund in 2014.**

SUBSTANTIVE ITEMS FOR THE AGENDA AND DATES FOR THE NEXT MEETINGS

12.11 The Meetings reviewed the list of substantive items for the 36th Consultative Meeting and the 9th Meeting of Contracting Parties, as set out in document LC 35/WP.4, regarding the indents listed under each substantive item as early annotations and as priorities for action in relation to those meetings.

12.12 The Meetings adopted the "List of substantive items agreed for inclusion in the agenda for the 36th Consultative Meeting and the 9th Meeting of Contracting Parties",

as shown in annex 12 to this report. Contracting Parties were invited to prepare submissions on the priority items contained therein.

12.13 **The governing bodies:**

.1 agreed the dates for the 2014 sessions to be held under the London Convention and Protocol, as shown in the table below;

.2 instructed the Secretariat to inform the IMO Council accordingly; and

.3 thanked the United States for its generous offer to host the 2014 session of the Scientific Groups in New Orleans.

MEETING:	**LOCATION:**	**DATE:**
37th meeting of the LC Scientific Group & 8th meeting of the LP Scientific Group	**New Orleans, United States**	26 to 30 May 2014
36th Consultative Meeting & 9th Meeting of Contracting Parties	**IMO Headquarters**	3 to 7 November 2014
7th session of the LP Compliance Group	**IMO Headquarters**	3 to 5 November 2014

13 ANY OTHER BUSINESS

PARTICIPATION OF OBSERVER ORGANIZATIONS

13.1 The Meetings recalled that, in 2012, the governing bodies had agreed to invite the following intergovernmental organizations and non-governmental international organizations:

Sister organizations in the United Nations system, in particular,

.1 the United Nations;

.2 the UNEP Regional Seas Programme;

.3 the UNEP Mediterranean Action Plan (UNEP-MAP)

.4 the IAEA; and

.5 the World Bank;

as well as:

Intergovernmental organizations:

EC	European Commission
OECD	Organisation for Economic Co-operation and Development
CPPS	Permanent Commission for the South Pacific
HELCOM	Helsinki Commission
ICES	International Council for the Exploration of the Sea
ROPME	Regional Organization for the Protection of the Marine Environment
OSPAR	OSPAR Commission
SPREP	South Pacific Regional Environment Programme
PICES	North Pacific Marine Science Organization

Non-governmental international organizations:

ICS	International Chamber of Shipping
IAPH	International Association of Ports and Harbors
PIANC	The World Association for Waterborne Transport Infrastructure
OGP	International Association of Oil & Gas Producers
IUCN	International Union for Conservation of Nature
ACOPS	Advisory Committee on Protection of the Sea
GREENPEACE INTERNATIONAL	Greenpeace International
WWF	World Wide Fund for Nature (provisionally)
IOI	International Ocean Institute
CCSA	Carbon Capture and Storage Association
WODA	World Organization of Dredging Associations

13.2 The Meetings noted that all the above-mentioned organizations had been granted full observership status, with the exception of WWF which had been granted provisional observership status.

OTHER ISSUES

13.3 The delegation of Brazil informed the Meetings that in August 2010, Brazil adopted the Law nº 12.305, known as "National Policy on Solid Waste" (PNRS), which regulates the management of solid waste and tailings; specifies the responsibilities of those involved in the PNRS, including waste generators and public authorities; and defines appropriate management and economic instruments and their applicability (LC 35/INF.3). It was noted that the adopted law has a broader spectrum of application and uses well-known principles such as the polluter pays principle, the precautionary approach and precautionary principle, from the cradle-to-grave cycle, and sustainable development, among others. It was also noted that within the scope of the London Convention, Brazil now had a more restrictive law, whereby the use of the sea as a final destination of waste ceases to be an option, hence reflecting Brazil's proactive stance in preserving its maritime area, known nationally as "The Blue Amazon". The new law prohibits any kind of dumping or final disposal of solid waste or tailings on beaches, at sea or in any body of water. It was further noted that, since 2004, Brazil has applied a specific regulation on dredging, which was recently revised to broaden its scope and to encompass the knowledge acquired and the progress made since its adoption.

13.4 The observer from Greenpeace International drew the attention of the Meetings to the concerns regarding the leakage of radioactively contaminated water from the damaged Fukushima Daiichi nuclear power plant in Japan. While recognizing that Japan undertook to provide an update on this issue to the next joint session of the Scientific Groups in 2014, the representative invited the delegation of Japan to provide, if possible, any further updates to the Meetings regarding the situation and, in particular, the measures being undertaken to reduce the generation and leakage of contaminated water with a view to its ultimate cessation.

13.5 The same observer, in recalling the financial and practical assistance that was offered to the Russian Federation when it was faced with problems regarding large quantities of radioactively contaminated water, and in view of the ongoing situation relating to the Fukushima Daiichi nuclear facility, asked whether Contracting Parties would be prepared to offer practical and/or financial assistance to Japan in order to help find a solution to reduce and ultimately prevent the further contamination of the marine environment and to monitor the spread of contamination through the marine environment in the coming months and years, and, if so, whether Japan would be prepared to accept such assistance.

13.6 The delegation of Japan provided information regarding the incident at the Fukushima Daiichi nuclear power station in March 2011. While stressing that the issue is not within the scope of the Convention or Protocol, the delegation noted that interested delegations can find regular updates and contact details of officials on the website of the Nuclear Regulatory Authority of Japan: http://www.nsr.go.jp/english/.

13.7 The delegation of Japan, while appreciative of the suggestion by Greenpeace International regarding the provision of assistance, suggested that States should contact the Embassy of Japan in their respective countries, as appropriate, on this matter.

14 ELECTION OF OFFICERS FOR BOTH GOVERNING BODIES

14.1 In accordance with Rule 20 of the Revised Rules of Procedure, the Consultative Meeting unanimously re-elected Mrs. Sue Milburn-Hopwood (Canada) as Chairman, Capt. Ibraheem Olugbade (Nigeria) as First Vice-Chairman, and Dr. Gi-Hoon Hong (Republic of Korea) as Second Vice-Chairman for the intersessional period and for the thirty-sixth Consultative Meeting. In accordance with the same Rule, the Meeting of Contracting Parties also unanimously re-elected the same officers for the intersessional period and for the ninth meeting of Contracting Parties.

15 CONSIDERATION AND ADOPTION OF THE REPORT

15.1 The joint report of the 35th Consultative Meeting of Contracting Parties to the London Convention and the 8th Meeting of Contracting Parties to the London Protocol was adopted on the final day of the Meetings, Friday, 18 October 2013.

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ANNEX 1

AGENDA FOR THE 35TH CONSULTATIVE MEETING AND THE 8TH MEETING OF CONTRACTING PARTIES

1 Adoption of the agenda

LC35/1	Secretariat: Provisional Agenda
LC 35/1/1	Secretariat: Annotations to the Provisional Agenda

2 Status of the London Convention and Protocol

No documents

3 Consideration of the Report of the Scientific Groups

LC 35/3	Secretariat: Action by the governing bodies
LC 35/3/1	Secretariat: Review of the Specific Guidelines for Assessment of Dredged Material
LC 35/3/2	Secretariat: Development of a Strategic Plan for the London Convention and Protocol
LC 35/3/3	Canada: Consideration of the need for a Strategic Plan
LC 35/J/7	Proposed revisions to the Draft Specific Guidelines for the Assessment of Dredged Material
LC 35/WP.6	Report of the Working Group on the Development of a Strategic Plan for the London Convention and Protocol
LC 35/WP.7	Report of the Drafting Group on the Review of the Specific Guidelines for Assessment of Dredged Material

4 Regulation of Ocean fertilization and other activities

LC 35/4	Australia, Nigeria and Republic of Korea: Proposal to amend the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes or other Matter, 1972 to regulate placement of matter for ocean fertilization and other marine geoengineering activities
LC 35/4/1	Chair of the Correspondence Group (United Kingdom): Guidance on a procedure for considering the inclusion of new activities in a proposed new annex 4 to the London Protocol
LC 35/4/2	Chair of the Correspondence Group (United States): Report of the Correspondence Group on developing a web-based repository of references relating to the application of the Ocean Fertilization Assessment Framework (OFAF)

LC 35/4/3	Germany: Amendment proposals on the proposal submitted by Australia, Nigeria and Republic of Korea to amend the London Protocol to regulate placement of matter for ocean fertilization and other marine geoengineering activities
LC 35/4/3/Corr.1	Germany: Amendment proposals on the proposal submitted by Australia, Nigeria and Republic of Korea to amend the London Protocol to regulate placement of matter for ocean fertilization and other marine geoengineering activities – Corrigendum
LC 35/INF.2	United Kingdom: Brief Summary of Marine Geoengineering Techniques
LC 35/J/4	Secretariat: Letter from the Executive Secretary of the Secretariat of the Convention on Biological Diversity
LC 35/J/9	Outcomes of the Working Group discussions on further work on the guidance for considering the inclusion of new activities in a proposed new annex 4 to the London Protocol
LC 35/WP.3	Report of the Working Group on the Proposed Amendment to the London Protocol to Regulate Placement of Matter for Ocean Fertilization and Other Marine Geoengineering Activities

5 CO_2 sequestration in sub-seabed geological formations (LP):

LC 35/5	Review of the 2007 CO_2 Sequestration Guidelines to include Transboundary Movement and in the light of the amendment to article 6 of the London Protocol Chair of the Correspondence Group (Canada): "Guidance on the implementation of article 6.2 on the export of CO_2 streams for storage in sub-seabed geological formations"
LC 35/WP.5	Report of the Drafting Group: Review of the 2007 CO_2 sequestration guidelines

6 Compliance issues

LC 35/6	Secretariat: Final draft summary report on dumping permits issued in 2010
LC 35/6/1	Secretariat: First draft summary report on dumping permits issued in 2011
LC 35/6/2	Secretariat: Status of compliance with the notification and reporting requirements under article VI(4) of the London Convention 1972 and article 9.4 of the London Protocol
LC 35/INF.4	Secretariat: Summary of the notification and reporting under the London Convention and Protocol by Contracting Parties from 1976 to 2011
LC 35/WP.2	Report of the sixth meeting of the Compliance Group under the London Protocol

7 Technical cooperation and assistance

LC 35/7	Chair of the Barriers to Compliance Correspondence Group (Netherlands): Status of Revisions to National or Regional Workshop Presentations
LC 35/7/1	Secretariat: Update of the Implementation Plan for the Barriers to Compliance Project
LC 35/WP.8	Report of the Barriers to Compliance Steering Group

8 Interpretation of the London Convention and Protocol

LC 35/8	Chairman of the Correspondence Group (United States): Report of the Correspondence Group on Managing Spoilt Cargo
LC/35/8/1	Greenpeace International: Seabed mining: an update on state of development and environmental concerns
LC/35/J/8	Draft Terms of Reference for the Intersessional Correspondence Group on Mine Tailings

9 Matters Related to the management of radioactive wastes

LC 35/9	United Kingdom: Development of a system for environmental protection from the effects of ionizing radiation

10 Monitoring for the purposes of the London Convention and Protocol

No documents

11 Outreach to prospective new contracting parties to the protocol and relations with other organizations in the field of marine environmental protection

No documents

12 Administrative arrangements and future work

LC 35/J/5	Secretariat: Report on the LC-LP TC Trust Fund
LC 35/J/6	Secretariat: Joint Work Programme of the Scientific Groups (2014 - 2016)
LC 35/WP.4	Substantive items for the agenda and date for the 36th Consultative Meeting and the 9th Meeting of Contracting Parties

13 Any other business

LC 35/INF.3	Brazil: National Policy on Solid Waste: New Rule adopted by Brazil

14 Election of officers for both governing bodies

No documents

15 Consideration and adoption of the report

LC 35/15	Secretariat: Report of the 35th Consultative Meeting and the 8th Meeting of Contracting Parties
LC 35/WP.1	Secretariat: Draft Report of the 35th Consultative Meeting and the 8th Meeting of Contracting Parties
LC 35/INF.1	List of Participants
LC 35/J/1	Provisional List of Participants
LC 35/J/2	List of Documents
LC 35/J/3	Timetable of Presentations

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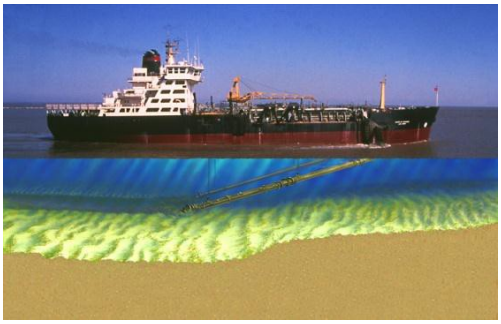
ANNEX 2

REVISED SPECIFIC GUIDELINES FOR ASSESSMENT OF DREDGED MATERIAL



(* Editing Note: Need to attribute photographs to sources)

PREFACE

Specific Guidelines for Assessment of Dredged Material addressed in this document are intended for use by national authorities responsible for regulating dumping of wastes and embody a mechanism to guide national authorities in evaluating applications for dumping of wastes in a manner consistent with the provisions of the London Convention 1972 or the London Protocol. Annex 2 to the London Protocol places emphasis on progressively reducing the need to use the sea for disposal of wastes, for example, through beneficial use of the dredged material. Furthermore, it recognizes that avoidance of pollution demands rigorous controls on the emission and dispersion of contaminating substances and the use of scientifically based procedures for selecting appropriate options for waste disposal. When applying these Guidelines, uncertainties concerning the assessment of impacts on the marine environment can be addressed through the use of an iterative approach to the evaluation process and a precautionary approach to management. These Guidelines should be applied with a view that acceptance of disposal in specific cases does not remove the obligation to make further attempts to reduce the necessity for dumping.[1] [p1]

The London Protocol follows an approach under which disposal of wastes or other matter is prohibited except for those materials specifically enumerated in annex 1, and in the context of that Protocol, these Guidelines would apply to the materials listed in that annex. The London Convention 1972 prohibits the disposal of certain wastes or other matter specified therein and in the context of that Convention these Guidelines are designed to implement the requirements of its annexes for wastes not prohibited for disposal at sea. When applying these Guidelines under the London Convention 1972, they should not be viewed as a tool for the reconsideration of dumping of wastes or other matter in contravention of annex 1 to the London Convention 1972.

These Guidelines, which were adopted in 2013 by the 35th Consultative Meeting of the Parties to the Convention and the eighth Meeting of Parties to the London Protocol, are specific to dredged material. They update and replace the Guidelines adopted for dredged material in 2000 by the 22nd Consultative Meeting, which were based on the generic Guidelines of 1997 and replaced the "Dredged Material Assessment Framework" adopted in 1995 by the 18th Consultative Meeting (resolution LC.52(18)), which, in turn, replaced the *Guidelines for the Application of the annexes to the Disposal of Dredged Material*, adopted in 1986 by the Tenth Consultative Meeting (resolution LDC.23(10)).

These Guidelines are intended to provide additional clarification to enable compliance with annex 2 of the London Protocol, and represents neither a more restrictive nor a less restrictive regime than that annex.

(Editing Note: Secretariat will work out the format for referring to LC, LP, annex 2, etc. in the document as a part of editing.)

[1] Article 3.1 of the Protocol.

1 INTRODUCTION

1.1 Sediment is an essential component of freshwater, estuarine, and marine ecosystems. Sediment processes play important roles in determining the structures and functions of aquatic systems. Therefore, management processes applied to sediment, in relation to human activities, should recognize that sediment is an important natural resource.

1.2 Around the world, dredging of sediments is undertaken for several general purposes, including: 1) to support the development and maintenance of water-based infrastructure (for example, navigation systems, flood mitigation, water supply systems, etc.), 2) as part of remediation measures for areas of contaminated sediment, and 3) to restore structure and function to aquatic ecosystems (for example, through habitat restoration/creation). Some material removed during these activities may require disposal at sea.

1.3 Dredged material predominantly consists of sedimentary deposits of natural materials (for example, rock, sand, silt, clay and natural organic matter). Appropriate management actions for dredged material, including its end use or disposal, will be affected by many project- and site-specific factors, including the location of the dredging project, the geotechnical characteristics of the sediment, the degree of contamination present, potential environmental impacts, engineering constraints, monitoring operations, and costs.

Overarching considerations

1.4 Three overarching considerations should guide planning and permitting activities related to dredged material management, including disposal at sea, that are in keeping with the intent of the London Protocol and London Convention to protect and preserve the marine environment:

.1 Dredged sediment is a resource that should be used for beneficial purposes (as described in paragraphs 3.3 and 3.4) as an alternative to disposal in the ocean, when it is not contrary to the aims of the Convention and Protocol and is environmentally, technically and economically feasible to do so.

.2 Selection of management options for dredged material should be guided by "a comparative risk assessment involving both dumping and the alternatives" (annex 2 of the 1996 Protocol, paragraph 6) to dumping. This assessment should compare: the environmental risks; the economic, social and environmental benefits; and the costs for each of the management alternatives under consideration over the short and long term.

.3 Management actions for dredged material should "ensure, as far as practicable, that environmental disturbance and detriment are minimized and the benefits maximized" (annex 2 of the 1996 Protocol, paragraph 17).

Overview of dredging activities and the evaluation and management process

1.5 Some dredging activities may give rise to the need to relocate or dispose of sediments. The primary purpose of the dredging activity may be a relevant consideration when determining dredged material management options. The different purposes for dredging include:

Dredging for the purposes of development and maintenance of water-based infrastructure, includes:

.1 Capital (or new-work) dredging – for navigation this involves enlarging or deepening existing channel and port areas or creating new ones; for engineering purposes includes constructing trenches for pipes, cables, immersed tube tunnels, and removal of material unsuitable for foundations or for aggregate extraction; for hydraulic purposes this involves increasing the flow capacity of the waterway;

.2 Maintenance dredging – to ensure that channels, berths or construction works, etc. are maintained at their designed dimensions; and

.3 Dredging to support coastal protection/management – relocation of sediments for activities as beach nourishment and construction of levees, dykes, jetties, etc.

Dredging for the purposes of remediation includes:

.4 Environmental dredging – to remove contaminated sediment for the purpose of reducing risks to human health and the environment; construction of Confined Aquatic Disposal cells to hold contaminated sediments.

Dredging for the purposes of restoring structure and function to aquatic ecosystems includes:

.5 Restoration dredging – to restore or create environmental features or habitats to establish ecosystem functions, benefits, and services; for example, wetlands creation, island habitat construction/nourishment, construction of offshore reefs and topographic features for fisheries enhancement, etc.; and

.6 Dredging to support local and regional sediment processes – includes engineering to reduce sedimentation (e.g. construction of sediment traps), retaining sediment within the natural sediment system to support sediment-based habitats, shorelines and infrastructure.

1.6 In general, dredging projects should be considered in the broader context of the watershed and the regional sediment system where they occur. Ideally, dredging and associated sediment management projects should strive to optimize the production of economic benefits, ecosystem services, and social goals, while ensuring the protection of the marine environment. An example of the rationale for this approach can be found in the Working with Nature initiative described in PIANC (2011). Such an approach involves broad stakeholder engagement, from the very beginning of a project, in order to identify potential concerns, opportunities for avoiding negative environmental impacts, and ways to incorporate additional ecosystem benefits and services into the project design. This approach to project planning and execution can help streamline the permitting process while minimizing environmental detriments and maximizing environmental benefits.

1.7 The above dredging activities may generate dredged material that requires disposal at sea. Of the total amount of material dredged worldwide, most is similar to undisturbed sediments in inland and coastal waters. However, some dredged material is contaminated by human activity to an extent that specific management actions need to be applied when considering disposal or use of these sediments.

1.8 A training set is available on the LC/LP website (LC/LP 2007, http://www.imo.org/blast/mainframemenu.asp?topic_id=1654) to assist in the implementation of these Guidelines. The training set includes a tutorial booklet, an instructor's manual, electronic presentation slides, and an extension providing low-technology techniques for assessing dredged material disposal. The training set explains key components of the Guidelines and offers access to experience of Contracting Parties in regulating ocean dumping over the last 30+ years (LC/LP 2007; LC/LP 2011). In addition, an example application of the Guidelines is contained in Fredette (2005).

1.9 The schematic shown in figure 1 presents the steps involved in the application of these Guidelines where important decisions should be made. In general, national authorities should use this schematic in an iterative manner (revisiting steps in the processes as needed) to ensure that all steps receive appropriate consideration before a decision is made to issue or decline a permit. The following sections of this document describe the steps and activities relevant to these Guidelines.

Annex

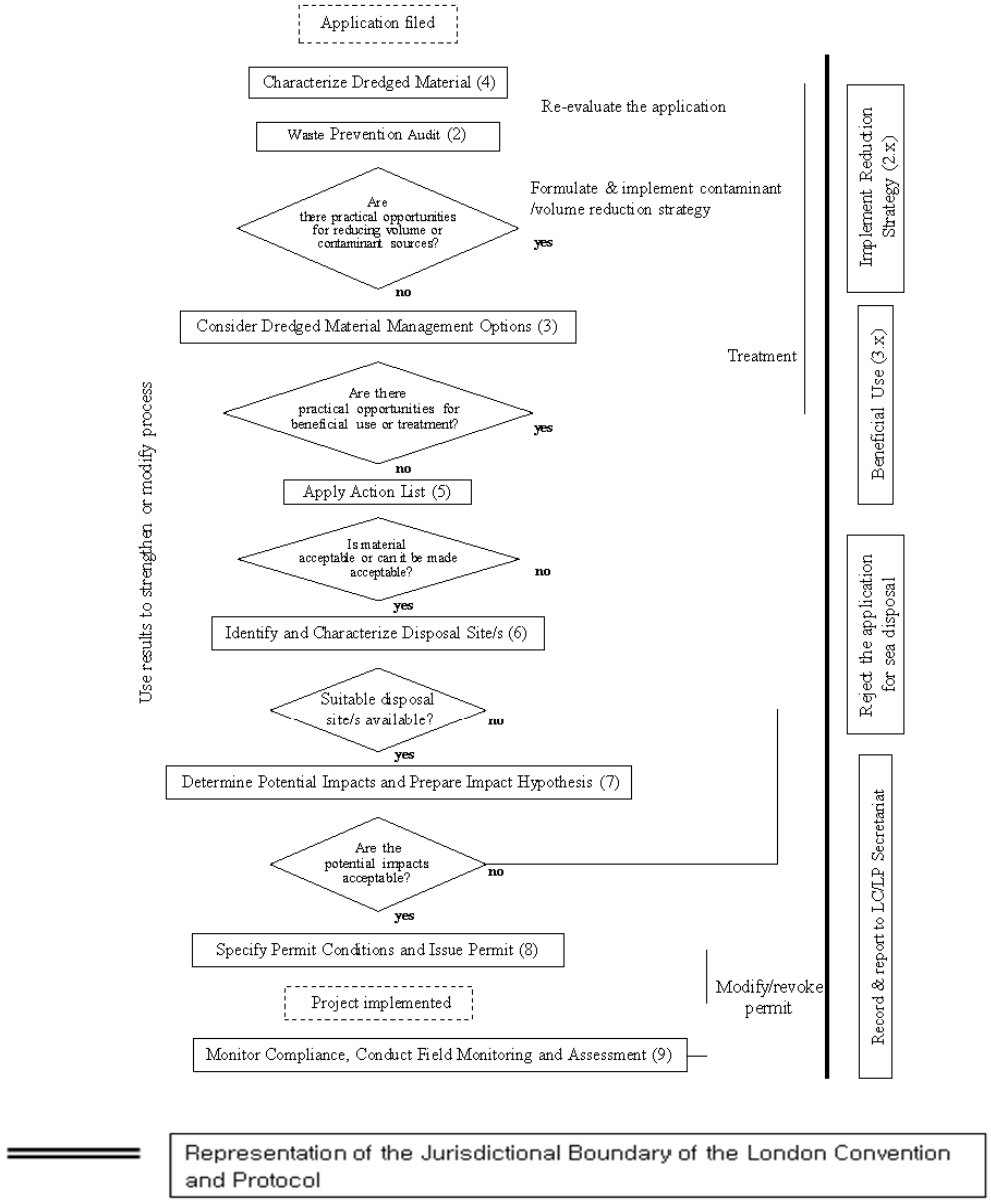


Figure 1. Dredged Material Assessment Framework. Schematic presents the major steps in the application of these Guidelines where important decisions, using an iterative process, should be made. Numbers in parentheses denote the sections in these Guidelines where explanatory text is located. Shaded boxes are actions undertaken primarily by project proponents and not by the national authority administering the permit program.

2 WASTE PREVENTION AUDIT

2.1 For dredged material, the goal of waste management should be to identify and control sources of contamination, including through implementation of waste prevention strategies. Until this objective is met, the problems of contaminated dredged material may be addressed by using disposal management techniques at sea or on land. In the context of sediment management, reducing detrimental effects on the marine environment and the need for dredged material disposal at sea can be accomplished through the following three activities:

.1 Controlling and reducing sources of contamination to water and sediments;

.2 Maximizing, to the extent practicable, the use of dredged sediments for beneficial purposes; and

.3 Minimizing the volumes of sediment that must be dredged by using improved engineering practices.

2.2 There is growing recognition for the need to pursue sustainable approaches to sediment management in coastal systems, approaches which emphasize the need to minimize the release of contaminants to the environment while maximizing the reuse of sediment for beneficial purposes. Examples of progress made toward utilizing sustainable sediment management can be seen in initiatives being undertaken by some Contracting Parties and Observers to the London Convention and London Protocol, including the Regional Sediment Management Program[2] in the United States, Working with Nature (PIANC 2011), Building with Nature,[3] and Engineering With Nature.[4]

2.3 Application of best engineering and operational practices to dredging operations will provide opportunities for minimizing the quantity of material that must be dredged and disposed of at sea and reducing the environmental impact of dredging activities (e.g. PIANC 2009). These practices include improved land-use management, the use of engineering to reduce sedimentation within navigation channels, accurate survey systems, and improvements to the dredging process by using the best suited dredging equipment and techniques and monitoring technologies.

2.4 Sediment is a valuable natural resource. Opportunities for beneficial use of dredged material (which are described further in sections 3.3 and 3.4) should be pursued to the maximum extent practicable. Beneficial use of sediments includes making use of opportunities for retaining clean sediment within natural sediment processes and cycles that support aquatic, estuarine, and marine systems.

2.5 Contamination of aquatic environments and sediments can lead to environmental impacts, increased costs for dredged material management, and reduced opportunities for beneficial use. For dredged material, an additional goal of waste management should be to identify, control, and reduce the sources of contamination to the sediment resource.

.1 Contamination of aquatic environments, both as a consequence of historical and present day inputs, presents a problem for the management of sediments. High priority should be given to the identification of sources, as well as the reduction and prevention of further contamination of sediments from both point and non-point sources. Sources of contamination include:

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2 United States Army Corps of Engineers, Regional Sediment Management Program: http://rsm.usace.army.mil/

3 EcoShape, Building with Nature: http://www.ecoshape.nl/

4 United States Army Corps of Engineers, Engineering With Nature: http://www.EngineeringWithNature.org

.1 industrial and residential discharges;

.2 storm water;

.3 surface runoff from agricultural areas;

.4 sewage and waste-water treatment effluents; and

.5 transport from upstream contaminated sediments.

.2 In developing and implementing a source control strategy, appropriate agencies should take into account:

.1 the risks posed by contaminants and the relative contributions of the individual sources to these risks;

.2 existing source control programmes and other regulations or legal requirements;

.3 technical and economic feasibility;

.4 evaluations of the performance or effectiveness of measures taken; and

.5 consequences of not implementing source control.

.3 In cases where there has been historical contamination or where control measures are not fully effective in reducing contamination to acceptable levels, risk management approaches and technologies, including the use of confinement or treatment methods, may be required.

.4 Successful implementation of prevention strategies will require collaboration among agencies with responsibility for the control of contaminant sources. The Rhine Action Plan[5] is an example of progress that can be achieved through giving attention to source control.

2.6 In general terms, if the required waste prevention audit reveals that opportunities exist for waste prevention at source, an applicant is expected to formulate and implement a waste prevention strategy in collaboration with relevant local and national agencies which includes specific waste reduction targets and provision for further waste prevention audits to ensure that these targets are being met. Permit issuance or renewal decisions shall assure compliance with any resulting waste reduction and prevention requirements.[6]

3 EVALUATION OF DREDGED MATERIAL MANAGEMENT OPTIONS

3.1 The results of the physical/chemical/biological characterization (section 4) will provide the basis for the comparative assessment of dredged material management options, which will include determining whether the material is suitable for disposal at sea. In any evaluation of management options a holistic consideration should be given to the system in which dredging will occur, placing the potential impacts of a given option into a broader perspective. The range of dredged material management options may include:

5 http://www.iksr.org/index.php?id=258&L=3&pdfPage=1

6 Annex 2, paragraph 3.

.1 Beneficial use;

.2 Confined upland disposal, e.g. in a confined disposal facility or landfill;

.3 Confined aquatic disposal, i.e. confinement in the aquatic environment beneath a cap of clean sediment;

.4 Open-water disposal; and

.5 No action, i.e. the sediment remains in place and no dredging and management is performed.

Treatment of the dredged material – through physical, chemical or biological means – may be used in combination with alternatives .1 to .4 above to reduce or control impacts to a level that will not constitute an unacceptable risk to human health, or harm living resources, damage amenities or interfere with legitimate uses of the sea.

A permit to dump wastes or other matter shall be refused if the permitting authority determines that appropriate opportunities exist to reuse, recycle or treat the waste without undue risks to human health or the environment or disproportionate costs.[7] The practical availability of other means of disposal should be considered in the light of a comparative risk assessment involving both dumping and the alternatives.

3.2 The comparative risk assessment to be performed will compare the management alternatives under consideration by using a set of relevant criteria that are selected as a part of project planning. Annex 2 of the London Protocol, paragraph 14 includes a list of the following concerns that should be considered in the selection of the criteria employed within the comparative assessment:

.1 human health risks (e.g. resulting from consumption of contaminated fish);

.2 environmental costs (that is, adverse impacts, e.g. sediment toxicity affecting benthic production and biodiversity);

.3 hazards (e.g. the potential for navigation accidents because navigable depths are not maintained in channels or at disposal sites);

.4 economics (e.g. the relative monetary costs of the management alternatives); and

.5 exclusion of future uses (e.g. adverse impacts on nearby fisheries or recreational areas).

Comparative risk assessments are performed by collecting information relevant to the selected criteria for each of the alternatives under consideration. The alternatives are compared using this information, which guides the selection of the management alternatives that will be used. Further technical information and examples of comparative assessments for dredged material have been published in the scientific literature (Kane-Driscoll et al. 2002; Cura et. al. 2004; Kiker et. al. 2008). The results of the comparative analysis are intended to support sustainable practices and sound management decisions by balancing risks and benefits, over the long term, to environmental, social, and economic considerations and objectives.

[7] Annex 2, paragraph 6.

Beneficial uses

3.3 It is important, recognizing the value of sediment as a resource, to consider opportunities for beneficial uses of dredged material, taking into account the physical, chemical, and biological characteristics of the material (PIANC 2009). Generally, a characterization carried out in accordance with these Guidelines will be sufficient to match a material to possible beneficial uses in water, at the shoreline, and on land. Examples of beneficial use opportunities include:

In water

.1 *Habitat Restoration and Development* using direct placement of dredged sediments for enhancement or restoration of ecosystem habitat associated with wetlands, other near-shore habitats, coastal features, offshore reefs, fisheries enhancement, etc.

.2 *Sustainable Relocation* by retaining sediment within the natural sediment system to support sediment-based habitats, shorelines, and infrastructure.

At the shoreline

.3 *Beach Nourishment* using dredged material (primarily sandy material) to restore and maintain beaches.

.4 *Shoreline Stabilization and Protection* through the placement of dredged material with the intent of maintaining or creating erosion protection, dike field maintenance, berm or levee construction, and erosion control.

On land

.5 *Engineered Capping* of soils or waste materials, e.g. landfill covers or remediation of former mining sites. (This form of beneficial use also applies to capping of contaminated sediments in aquatic environments.)

.6 *Aquaculture, Agriculture, Forestry, and Horticulture* involving direct placement of dredged material to create or maintain an aquaculture facility, replace eroded topsoil, elevate an area for improved site use, or otherwise enhance the physical and chemical characteristics of land.

.7 *Recreational Development* through direct placement of dredged material for the foundation of parks and recreational facilities; for example, waterside parks providing such amenities as swimming, camping, or boating.

.8 *Commercial Land Development* (also known as reclamation) using direct placement of dredged sediments to support commercial or industrial development activities, including "brownfield" redevelopment, as well as marine port, airport, and residential developments. These activities typically occur near navigational channels by expanding the land footprint or providing bank stabilization material.

.9 *Commercial Product Development* involving the use of dredged material to create marketable products such as construction materials, e.g. bricks, aggregate, cement, top soil, etc.

3.4 Factors relevant to the planning and execution of beneficial use projects include (USACE Engineer Manual 1110-2-5026; USEPA/USACE, 2007):

.1 *Engineering considerations*, e.g. the geotechnical characteristics of the sediment;

.2 *Operational factors*, e.g. timing and project schedule;

.3 *Cost*, e.g. related to the transportation of the sediment to the beneficial use site and other handling or treatment costs;

.4 *Environmental suitability*, e.g. in relation to the transport of sediment and the chemical, biological and physical characteristics of the sediment;

.5 *Additional environmental effects*, e.g. due to handling or pre-treatment (if required); and

.6 *Environmental benefits produced*, e.g. ecosystem services,[8] habitat and fisheries benefits, creation of habitats or ecosystems that function as carbon sinks (Nellemann, et al. 2009).

Additional information about beneficial uses of dredged material, including case studies, can be found at the U.S. Army Corps of Engineers' Dredging Operations Technical Support Program website,[9] the Beneficial Uses of Dredged Material website[10] sponsored by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, and the Central Dredging Association's website.[11] PIANC (2009) provides technical information on the assessment of options for beneficial use and recommendations on how to overcome constraints based on "lessons learned" from numerous cases studies in different situations in various countries.

Management of disposal at sea

3.5 The design and conduct of a dredging operation, including associated disposal activities, will be informed by the results of the Dredged Material Characterization (section 4) and the comparative analysis of management options. The results of this analysis may indicate the need for using specific management actions and techniques as a part of disposal operations in order to meet the requirements of the Convention and Protocol. Such management actions can be used to reduce or control impacts to a level that disposal at sea will not constitute an unacceptable risk to human health, or harm living resources, damage amenities or interfere with legitimate uses of the sea. An evaluation of these additional management techniques during project planning will guide the selection of methods that will be used to reduce risks and impacts to acceptable levels (for example, USEPA/USACE, 2004; USACE Engineer Manual 1110-2-5025; CEDA & IADC 2008). The management actions that can be taken to minimize environmental disturbance and detriment include engineering and operational controls:

.1 *Engineering controls* include actions involving the use of a physical construction technology or a physical modification to the dredging/disposal equipment to minimize environmental impact. Examples of engineering controls include:

8 http://www.unep.org/maweb/en/Framework.aspx

9 United States Army Corps of Engineers' Dredging Operations Technical Support Program: http://el.erdc.usace.army.mil/dots/

10 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Beneficial Uses of Dredged Material: http://el.erdc.usace.army.mil/dots/budm/budm.cfm

11 Central Dredging Association: http://www.dredging.org

.1 Selection of the most appropriate dredging equipment (e.g. mechanical vs. hydraulic dredge, dredge size/production capacity, which will affect the physical density, behaviour, and transport of the dredged material during disposal operations);

.2 Use of equipment, such as diffusers to perform submerged discharge and silt curtains to limit transport and mixing in the water column;

.3 Use of turtle-excluding dredge heads to protect large marine fauna;

.4 Treatment of the dredged material (e.g. physical separation of coarse from fine sediments, the use of amendments to stabilize contaminants, the utilization of geochemical interactions and transformations of substances in dredged material when combined with sea water or bottom sediments, etc.); and

.5 Use of capping techniques for confined aquatic disposal (CAD).

.2 *Operational controls* involve actions that can be undertaken by the dredge operator to alter conditions or processes that reduce environmental exposures and risks from the dredging and disposal operations. Example operational controls include:

.1 Scheduling of operations to avoid impacts to breeding or migrating organisms;

.2 Modifications to the timing of disposal operations (e.g. undertaking operations during specific parts of the tidal cycle or during specific river discharges can reduce the extent of dispersal of resuspended sediment);

.3 Modifications to the rate of discharge of the dredged material;

.4 Selection of the disposal site, or the location of discharge within the selected disposal site;

.5 Use of field monitoring as a basis for adjusting operations (e.g. suspended sediment monitoring, turbidity, light attenuation); and

.6 Use of sensing systems and observers to detect the presence of marine turtles and mammals in the vicinity of dredging operations.

3.6 Engineering and operational controls can be combined as a part of planning, designing and evaluating management alternatives for disposal operations that comply with the provisions of the London Convention and Protocol over the short and long term. Such engineering and operational controls are subject to site-specific conditions.

3.7 One of the most common engineering controls applied to contaminated dredged material is confined aquatic disposal (CAD), which has been successfully used at many sites around the world (e.g. Palmerton et al. 2002; Fredette 2006; Wolf et al. 2006, DEFRA 2009; USACE 2012). CAD involves first placing the dredged material on the bottom and then covering the dredged material with a layer of clean sediment. Palermo et al. (1998) provides detailed engineering guidance on the use and management of CAD operations. CAD can be employed by placing contaminated dredged material:

.1 Within depressions or pits on the sea bottom (e.g. specifically constructed pits, former borrow sites or aggregate mining sites, natural depressions) and then placing the capping layer of clean sediment over the top of the dredged material;

.2 Behind submerged berms constructed of clean dredged material, followed by capping;

.3 On a level bottom, followed by placement of clean sediment to create a mound.

Engineering design for application of CAD should include consideration of physical and environmental processes that could affect the long-term performance and stability of the cap (e.g. ordinary tidal currents, storm surges, high waves etc.). Monitoring technologies for capping projects, as well as a description of several capping case studies around the world, are included in Palermo et al (1998).

4 DREDGED MATERIAL CHARACTERIZATION

Organizing the characterization and assessment

4.1 Dredged material characterization is conducted in order to collect the information that will be needed to inform management decisions, including determining whether, and under what conditions, the material can be permitted for disposal at sea. Characterization is performed by collecting information about the physical, chemical and biological attributes of the sediment to be dredged. The specific data needs that will be satisfied by this effort will be determined by the nature of the dredging project and the management options that will be considered within the comparative assessment.

4.2 Evaluations of dredged material are most efficiently conducted following a tiered process that begins with collecting existing relevant information, sediment chemistry data, and results from simple screening approaches. The evaluation then progresses, as needed, to more detailed assessments, where information from multiple lines-of-evidence is collected to reach conclusions about contaminant exposure, effects, and ultimately the risks posed by the disposal of dredged material into the sea (PIANC 2006a; LC/LP 2007; LC/LP 2011). The term *line-of-evidence* is commonly used to refer to broadly defined categories of information, physical, chemical and biological data, e.g. sediment chemistry, toxicity test data, and benthic community survey results.

4.3 The initial tier of assessment begins with a planning phase that establishes goals for the assessment, develops a conceptual model for the project, and identifies assessment questions and hypotheses that will be tested during subsequent analyses. Existing information is then collected on the physical, chemical, and biological attributes of the material, which are then compared to guidelines/standards; this comparison may allow early conclusions about the potential risks posed by the material. If insufficient information is available to make a management decision regarding the material during an initial phase of assessment, then additional information will be collected on the physical, chemical, and biological characteristics of the sediment until sufficient information is available to understand the risks and benefits posed by each of the management options under consideration in the comparative assessment. A tiered approach is iterative, with information from one tier guiding not only actions taken in later tiers, but also informing, when necessary, reconsideration of conclusions made in previous tiers (PIANC 2006a; CEDA and IADC 2008).

4.4 The development of a project conceptual model during the planning phase of the project can be a useful tool for identifying the critical processes and data to be developed

and evaluated in the assessment. The level of effort involved in developing a conceptual model will be determined by the needs of the project. A conceptual model is a written description or graphical representation of predicted relationships between receptors or resources in the environment (e.g. animals, plants, humans, human activities such as navigation) and the sources of effect or impact to which they may be exposed during the dredging and disposal operations. As a planning and decision-support tool, conceptual models can help dredged material managers, risk assessors, and regulators define the key elements of a project, contaminants of concern, sensitive organisms or activities (e.g. fish, shorebirds, humans, commercial fishing) in the environment that could be exposed and adversely affected by the project, and what processes and exposure pathways could potentially lead to the risk or adverse impact. Additional information about conceptual models and their use in sediments assessments, including examples, can be found in PIANC (2006a), Cura et al. (1999), and Bridges et al. (2005).

4.5 A simple example of a graphical conceptual model for use in a sediment assessment where contaminants associated with the sediment represent the focus of concern is shown in figure 2 (PIANC 2006b; Bridges et al. 2005). In this case, receptors in the environment are expected to come in contact with contaminants in the sediment through one of three primary pathways: (1) through contact with bedded sediment particles, (2) through contact with water that is contaminated via the sediment, and (3) through contact with contaminants that bioaccumulate within the food chain.

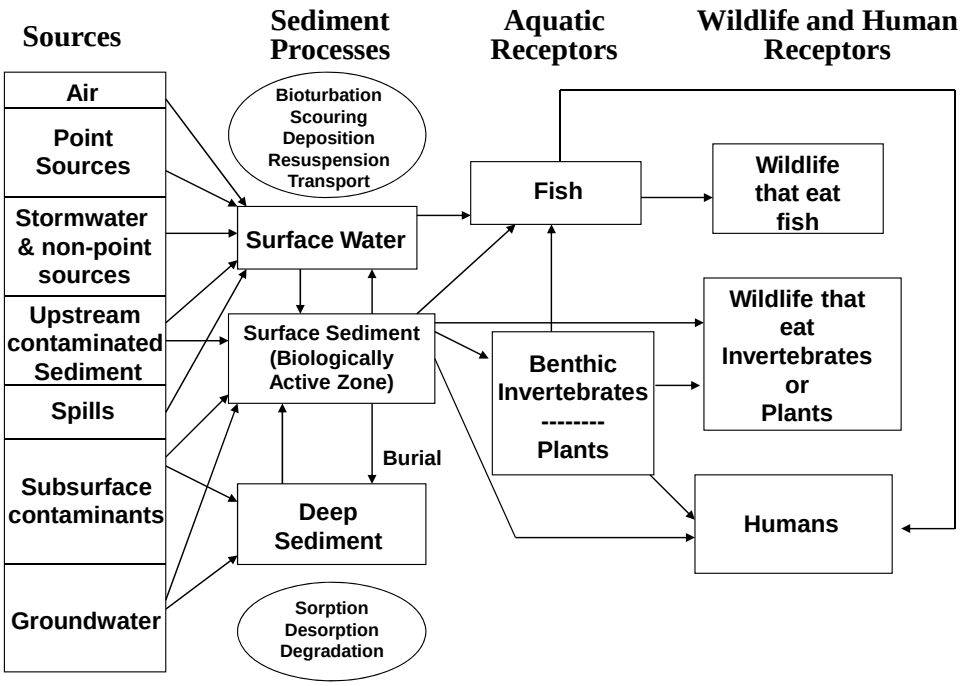

Figure 2. – Example conceptual model that highlights processes and pathways relevant to the assessment of contaminated sediment (based on PIANC 2006b).

4.6 The process of developing conceptual models that include the range of management options to be considered by the comparative assessment will guide the identification of the lines-of-evidence that will be needed to evaluate processes, reach conclusions about risks posed by the operation, evaluate the value of management actions that can be taken to reduce those risks, and establish permit requirements. In regard to the comparative risks assessment to be conducted, lines-of-evidence refer to the data and logic developed from the physical, chemical and biological characterization that will be used to develop conclusions about risks to the marine environment and its amenities. Assessments proceed by developing multiple lines-of-evidence to address the hypotheses and assessment questions that need to be answered to properly design the project and make permit decisions. A detailed technical discussion of the use of lines-of-evidence for sediment assessment is contained in Bridges et al. (2005) and PIANC (2006b).

4.7 There are three main lines-of-evidence that can be developed as a part of the characterization and evaluation process: physical, chemical and biological. An annotated list of the data to be collected and analysed during the characterization process should be developed on a project-specific basis. The annotations should explain what the data would demonstrate about the sediment to be dredged and how this information could be used in making management decisions (PIANC 1998). Sampling of sediments from the proposed dredging site should represent the vertical and horizontal distribution and variability of properties of the materials to be dredged – additional technical guidance on sampling of dredged material can be obtained from IMO (2005).

4.8 In order to develop sufficient evidence to support the selection of the most appropriate management options for dredged material, lines-of-evidence are typically developed in an iterative manner. By revisiting steps in the Dredged Material Assessment Framework (figure 1), as appropriate, and developing data over a sequence of phases or steps, critical uncertainties can be resolved in an efficient manner (PIANC 2006a). Collection and analysis of data and relevant lines-of-evidence should continue until sufficient information is developed to support confident conclusions that the selected management alternatives, including sea disposal, will not have significant adverse effects on human health or the environment.

Physical characterization

4.9 An evaluation of the physical characteristics of the sediment to be dredged is used to determine needs in regard to chemical and/or biological testing and to assist in the evaluation of management options. The basic physical characteristics required are the amount of material, particle size distribution and other geotechnical attributes of the sediment (e.g. specific gravity of solids). These data can provide useful information regarding the potential for the sediment to be a carrier of contaminants and for predicting the behaviour, fate, and transport of the sediment during and after placement or disposal (in combination with information about currents, waves, etc.).

Chemical characterization

4.10 Sufficient information for chemical characterization may be available from existing sources: in such cases new measurements may not be required to gauge the potential impact of similar material at similar sites. Time elapsed since previous analysis should be taken into consideration as sources and amounts of contaminants deposited in the system in the intervening time may be sufficient to make the material unsuitable for some management options.

4.11 Considerations for designing and conducting chemical characterizations of dredged material include but are not limited to:

.1 major geo-chemical characteristics of the sediment including redox status;
.2 potential routes by which contaminants could reasonably have been introduced to the sediments;

.3 data from previous sediment chemical characterization and other tests of the material or other similar material in the vicinity, provided this information is still reliable;

.4 probability of contamination from agricultural and urban surface runoff;

.5 spills of contaminants in the area to be dredged;

.6 industrial and municipal waste discharges (past and present);

.7 source and prior use of dredged materials (e.g. for beach nourishment); and

.8 substantial natural deposits of minerals and other natural substances.

4.12 Contaminants of concern can include those in the following categories (LC/LP 2007):

.1 heavy metals,

.2 polycyclic aromatic hydrocarbons (PAH),

.3 biocides (e.g. TBT); and

.4 chlorinated organics.

4.13 Chemical characterizations of sediment could also consider the role of bioavailability in exposure processes. *Bioavailability* can be defined as "being capable of being absorbed and available to interact with the metabolic processes of an organism" (USEPA 2004). The bioavailable concentration of contaminants in sediment that can cause toxicity in human or ecological receptors is commonly less than the total concentration of these contaminants in the sediment. A number of chemical processes can limit the bioavailability of contaminants, such as binding between the contaminant and different forms of organic carbon.

.1 Bioavailability considerations could be included in the comparative assessment of management options in order to obtain an accurate understanding of the potential for exposure and effect and to identify management actions that can be taken to reduce risks to human health and the environment (Interstate Technology & Regulatory Council 2011).

.2 The physico-chemical factors that can influence bioavailability vary depending on the chemical attributes of the contaminant, but include oxidizing and reducing conditions in the water column and sediment, the amount of organic carbon present in the sediment, the form of organic carbon present, as well as factors affecting the geochemical state of the sediment over time (e.g. bioturbation, physical disturbance of the sediment matrix, etc.) (NRC 2003; Wenning et al. 2005; CEDA and IADC 2008).

Biological effect characterization

4.14 Biological data represents the third possible line-of-evidence for assessing the potential for environmental effects related to dredged material management, including sea disposal. The potential for biological effects can be assessed directly, through the use of toxicity tests, and indirectly, through the use of inferences developed from physical and chemical lines-of-evidence. However, sediment is a chemically and physically complex matrix. This complexity places limitations on the use of physical and chemical data alone to estimate the bioavailability and toxicity of contaminants present in the sediment.

4.15 Biological tests provide a means to measure contaminant bioavailability, bioaccumulation of contaminants into tissues, and toxicological effects (e.g. mortality, reduced growth). Toxicity tests serve an integrative function given that adverse effects in organisms are caused by the cumulative influence of each bioavailable contaminant, including those that are not quantified by chemical analysis.

4.16 In order for biological characterization to provide an adequate scientific basis for determining the potential for adverse effects on marine life, human health and the environment, the evaluation should be responsive to the conceptual model developed for the project, e.g. in regard to the species known to occur in proximity to dredging operations, the disposal site, and the processes and pathways that could result in adverse effects.

4.17 Biological tests should incorporate species that are considered appropriately sensitive and ecologically relevant (in view of the management sites under consideration). As is true for all data collected in the characterization process, biological tests should be conducted using sediments that are representative of the project material to be dredged. The effects and processes of interest in a biological characterization include direct toxicity and indirect effects resulting from contaminant bioaccumulation and movement within the food chain. Specific processes and effects of interest include the potential for:

.1 acute toxicity;

.2 chronic toxicity such as long-term sub-lethal effects;

.3 bioaccumulation; and

.4 tainting

at and in the vicinity of the site following disposal. Further information and examples on the conduct of biological testing for dredged material and the use of such data in decision making can be found in PIANC (2006a) and USEPA/USACE (1991, 1998).

Exemptions from detailed characterization

4.18 Dredged material may be exempted from full chemical and biological characterization described in paragraphs 4.10 to 4.17, if there is strong evidence (e.g. historical data, lack of contaminant sources) that the material is not contaminated and it meets *one* or more of the criteria listed below:

.1 dredged material is excavated from a site that is spatially removed from existing and historical sources of appreciable pollution, so as to provide reasonable assurance that the dredged material has not been contaminated, *or*

.2 dredged material is composed predominantly of sand, gravel and/or rock, *or*

.3 dredged material is composed of previously undisturbed geological materials.

Dredged material that does not meet any of these criteria should be characterized further to determine its potential to produce contaminant effects.

5 ACTION LIST

Developing the Action List

5.1 Each Contracting Party shall develop a national Action list to provide a mechanism for screening candidate wastes and their constituents on the basis of their potential effects on human health and the marine environment. The Action List provides a mechanism for determining whether sediments from dredging projects are acceptable for disposal at sea, and is expressly required under annex 2 of the 1996 Protocol.

5.2 A dredged material Action List is a list or inventory of dredged material characteristics (e.g. physical, chemical, biological), how they are measured (e.g. concentrations) and their associated effect levels (e.g. benchmarks) that a jurisdiction decides are important to consider in order to make permit decisions. IMO 2009 provides detailed guidance on the development of Action Lists and Levels.

5.3 To develop an Action List, Contracting Parties should consider what potential environmental impacts may result from the disposal of dredged material and what ecological assets and marine resources need to be protected. The process begins with identifying the chemical, biological, or physical characteristics that will make up the Action List. This can be done by surveying relevant sources of contaminants in dredged material and reviewing information collected during previous Dredged Material Characterizations (i.e. section 4). For dredged material, national Action Levels could be established on the basis of contaminant concentration limits, biological responses, environmental quality standards, flux considerations or other reference values (IMO 2009). In selecting chemical substances for consideration in an Action List, priority shall be given to toxic, persistent and bio-accumulative substances from anthropogenic sources (e.g. cadmium, mercury, organohalogens, petroleum hydrocarbons and, whenever relevant, arsenic, lead, copper, zinc, beryllium, chromium, nickel and vanadium, organosilicon compounds, cyanides, fluorides and pesticides or their by-products other than organohalogens).[12] In addition to its use to inform permitting decisions, an Action List can also be used as a trigger mechanism to identify the need for source control to prevent sediment contamination.

5.4 To establish Action Levels, benchmarks are set for each characteristic on the Action List. These benchmarks are used to identify where environmental concern may be low or high for a particular characteristic. They are often developed using a reference-based approach or an effects-based approach:

.1 In a reference-based approach, benchmarks for physical, chemical, or biological characteristics can be set based on knowledge of background or ambient conditions in comparable areas that have not been impacted by past disposal activities or other sources of contamination. Reference-based levels are commonly used for setting lower benchmarks and Lower Action Levels (paragraph 5.6), as it is reasonable to expect that levels that are similar to background levels would be unlikely to cause unacceptable effects;

[12] Protocol, Annex 2, paragraph 9.

.2 In effects-based approaches, benchmarks for physical, chemical, or biological characteristics are based on knowledge of effects that can be produced following exposure to dredged material. Such limits can be based on information concerning the likelihood or magnitude for an effect, such as through the use of toxicity tests (PIANC 2006a).

5.5 The Action List becomes a functional decision-making tool by integrating the relevant characteristics (the List) and benchmarks (the Levels) to form a decision rule. The decision rule can be as simple as a pass/fail criterion for single benchmarks or it can be a more complex rule that combines multiple lines of evidence in a weight-of-evidence approach (IMO 2009).

5.6 An Action List shall specify an upper level and may also specify a lower level. The upper level should be set so as to avoid acute or chronic effects on human health or on sensitive marine organisms representative of the marine ecosystem.[13] Application of an Action List will result in three possible categories of dredged material:

.1 dredged material which contains specified substances, or which cause biological responses, *exceeding* the relevant upper level shall not be disposed at sea, unless made acceptable for disposal through the use of management techniques or processes that will reduce risks to acceptable levels. A discussion of management actions that can be taken to reduce risks to meet the requirements of the Convention and Protocol are given in paragraphs 3.5, 3.6, and 3.7 above;

.2 dredged material which contains specified substances, or which causes biological responses, *below* the relevant lower levels should be considered to be of little environmental concern in relation to sea disposal; and

.3 dredged material which contains specified substances, or which causes biological responses, *below* the upper level but *above* the lower level require more detailed assessment before their suitability for sea disposal can be determined.

6 SITE SELECTION

Site selection considerations

6.1 Proper selection of sites where dredged material will be disposed is of paramount importance. Many of the selection factors discussed below could also be relevant in the selection of beneficial use sites.

6.2 Information to select a disposal site shall include:

.1 physical, chemical and biological characteristics of the water-column and the seabed;

.2 location of amenities, values and other uses of the sea in the area under consideration (e.g. proximity to navigation channels, shipping routes, fishing areas);

[13] Protocol, Annex 2, paragraph 10.

.3 assessment of the constituent fluxes associated with disposal in relation to existing fluxes of substances in the marine environment; and

.4 economic and operational feasibility.[14]

6.3 Additional considerations for selecting and managing disposal sites could include large-scale processes such as climate change (e.g. future storm and wave conditions affecting sediment movement) (e.g. PIANC (2008); CEDA (2012).

6.4 Prior to selecting a disposal site, it is essential that data are available on the oceanographic characteristics of the general area in which the site is to be located. This information can be obtained from the literature but fieldwork should be undertaken to fill the gaps. Information needs include:

.1 the nature of the seabed, including its depth, topography, geo-chemical and geological characteristics, its biological composition and activity, and prior disposal activities affecting the area;

.2 the physical nature of the water column, including temperature, possible existence of vertical stratification, tides, surface and bottom currents, wind and wave characteristics, suspended matter, and variability in these processes due to storms or seasonal patterns; and

.3 the chemical and biological nature of the water column, including pH, salinity, dissolved oxygen at the surface and bottom, chemical and biochemical oxygen demand, nutrients and their various forms, and primary productivity.

These site data will provide information about the short- and long-term fate of dredged material (e.g. under what conditions it would be transported away from the site) in addition to other site-selection factors.

6.5 Some of the important amenities, biological features, and uses of the sea to be considered in determining the specific location of disposal sites include proximity and relation to:

.1 the shoreline and bathing beaches;

.2 areas of beauty or significant cultural or historical importance;

.3 areas of special scientific or biological importance, such as sanctuaries and Marine Protected Areas;

.4 fishing areas;

.5 recreational areas, e.g. diving;

.6 spawning, nursery, and recruitment areas;

.7 migration routes;

.8 seasonal and critical habitats;

.9 shipping lanes;

[14] Protocol, Annex 2, paragraph 11.

.10 military exclusion zones; and

.11 engineering uses of the seafloor, including mining, undersea cables, pipelines, desalination or energy conversion sites.

Size of the site

6.6 The size of disposal sites is an important consideration. They should be large enough:

.1 to have the bulk of the material remain either within the site limits or within a predicted area of impact after disposal; unless the site is planned to be dispersive, the size should be sufficient to minimize mounding;

.2 to accommodate anticipated volumes of dredged material so that the quantities of sediment or any constituents reaching site boundaries are below levels of concern; and

.3 in relation to anticipated disposal volumes so that it will serve its function for the duration of its intended use, including consideration of its use by multiple projects.

However, they should not be so large that compliance or field monitoring would require undue expenditure of time and resources.

Site capacity

6.7 In order to assess the capacity of a site, the following should be taken into consideration:

.1 the anticipated loading rates per day, week, month, or year;

.2 the degree to which the site is dispersive;

.3 the allowable reduction in water depth over the site because of mounding of material;

.4 volume changes as a result of water introduced into the material during dredging operations; and

.5 volume changes as a result of consolidation of both the dredged material and the underlying sea floor.

Potential impacts

6.8 An important consideration in determining the suitability of dredged material for disposal at sea is the degree to which this would result in exposures that would lead to unacceptable adverse effects.

6.9 The extent of adverse effects of a substance or condition is a function of the exposures of organisms (including humans) and the sensitivity of those organisms to that substance or condition. Exposure, in turn, is a function, inter alia, of input flux and the physical, chemical and biological processes that control the transport, behaviour, fate, and distribution of a substance.

6.10 One of the processes to assess potential exposure to contaminants in the dredged material is the mobility of contaminants, which is dependent upon several factors:

.1 type of matrix;

.2 form of contaminant(s);
.3 contaminant partitioning;

.4 physical state of the system, e.g. temperature, water flow, suspended matter;

.5 physico-chemical state of the system;

.6 length of diffusion and advection pathways;

.7 biological activities, e.g. bioturbation;

.8 disposal methods; and

.9 engineering and operational controls, including containment measures.

6.11 The presence of natural substances and the ubiquitous occurrence of contaminants mean that there will always be some pre-existing exposures of organisms to all substances contained in dredged material. Concerns about exposures to hazardous substances thus relate to additional exposures that could be caused by dredging operations and disposal.

6.12 The potential physical impacts of dredging and disposal operations should also be considered in determining suitable disposal sites. Impacts may result from:

- habitat destruction or alteration due to changes in bottom topography and disposal of sediment that is different from sediments at the disposal site;

- transportation of suspended sediment plumes from the disposal sites to sensitive areas, such as seagrass beds, algal beds or coral reefs;

- reduction of light penetration due to suspended sediments, leading to impacts on light sensitive organisms or habitats;

- burial of benthic organisms;

- collision with marine fauna, and

- alteration of currents and wave conditions.

6.13 Under the right conditions, opportunities may exist to optimize disposal site selection in order to produce positive effects. Examples of such effects include offshore mounds and berms that produce desirable effects on wave climate, the capping of historically contaminated marine sediments (e.g. the Historic Area Remediation Site in the USA) and reef effects produced by dredged material mounds (Reine et al., 2012).

6.14 Temporal characteristics should be considered to identify potentially critical times of the year (e.g. for marine life) when disposal operations should not take place. This consideration leaves periods when it is expected that disposal operations will have less impact than at other times. Managing the exposures and risks associated with disposal during critical times can also be addressed through the use of engineering and operational

controls as described in paragraphs 3.5 through 3.8. An example of a risk framework used to assess and manage these effects is presented in Suedel et al. (2008). Biological considerations relative to the timing of disposal operations include:

.1 periods when marine organisms are migrating;

.2 breeding periods;

.3 periods when marine organisms are hibernating on or are buried in the sediments; and

.4 periods when particularly sensitive and possibly endangered species are exposed.

7 ASSESSMENT OF POTENTIAL EFFECTS

7.1 Assessment of Potential Effects provides a basis for deciding whether to approve as proposed, modify, or reject the proposed disposal option and for defining environmental monitoring requirements. The "Impact Hypothesis" outlines the expected impacts of the dredging project and can provide the basis for management measures and for targeted monitoring requirements, which can be specified in the permit. The assessment involves three distinct activities:

.1 Summarizing the dredged material characteristics and comparing to the Action Levels (from section 5), which, along with the disposal site characteristics, provides a basis for developing Impact Hypotheses;

.2 Preparation of Impact Hypotheses, from which management measures and the monitoring program can be designed and specified in the permit; and

.3 Assess actual impacts by evaluating the Impact Hypotheses using the data collected during monitoring).

7.2 The assessment of the potential for effects based on the lines-of-evidence developed during the comparative assessment should lead to a concise statement of the expected consequences of the selected management option(s), i.e. the "Impact Hypothesis". Impact assessment proceeds by establishing a hypothesis, or prediction, about the potential impact, and then testing it scientifically. An impact hypothesis is a prediction of the likely environmental impact of a given disposal event at a given disposal site. The assessment of potential effects should integrate information on the characteristics of the dredged material, disposal method, and the proposed site conditions, including potential pathways of exposure. It should comprise a summary of the potential effects on human health and ecological receptors, amenities and other legitimate uses of the sea, and should define the nature, temporal and spatial scales of expected impacts based on reasonably conservative assumptions (LC/LP 2007). For complex dredging projects, formal risk assessment procedures can facilitate the evaluation of potential effects including problem identification, exposure assessment, effects assessment, and risk characterization (PIANC 2006a, 2006b).

7.3 The conceptual model developed for the project under evaluation will assist in capturing the range of potential effects and formulating questions and hypotheses to be tested. Example questions that could be derived from the conceptual model include:

.1 How will sediment and any associated contaminants be transported and dispersed in the marine environment?

.2 How will the concentrations change as they disperse and settle?

.3 What marine organisms are present (or likely to be present, based on past monitoring or life history information) in the zone of exposure?

.4 What are the expected exposure pathways?

.5 How would acute or sub-lethal toxicity be expressed in terms of consequences for populations of organisms in the vicinity of the disposal site?

These questions can be rephrased as hypotheses that can be tested statistically with empirical data during and after the disposal of dredged material.

7.4 In constructing an Impact Hypothesis, particular attention should be given to, but not limited to, potential impacts on amenities (e.g. presence of floatables), sensitive areas (e.g. spawning, nursery or feeding areas), habitat (e.g. biological, chemical and physical modification), migratory patterns and marketability of resources. Consideration should also be given to potential impacts on other uses of the sea including: fishing, navigation, engineering uses, areas of special concern and value, and traditional uses of the sea.

7.5 The expected consequences of disposal should be described in terms of the habitats, processes, species, communities and uses that are expected to be affected. The precise nature of the predicted effect (e.g. change, response, or interference) should be described. The effect should be quantified in sufficient detail so that there would be no doubt as to the variables to be measured during field monitoring. In the latter context, it would be essential to determine "where" and "when" the impacts can be expected.

7.6 Emphasis should be placed on biological effects and habitat modification as well as physical and chemical change. However, if the potential effect is due to contaminants, the following factors should be addressed:

.1 estimates of statistically significant increases of the contaminants in seawater, sediments, or biota in relation to existing conditions and associated effects; and

.2 estimates of the contribution made by the contaminants to local and regional fluxes and the degree to which existing fluxes pose threats leading to adverse effects on the marine environment or human health.

7.7 In the case of repeated or multiple disposal operations, Impact Hypotheses should take into account the cumulative effects of such operations. It will also be important to consider the possible interactions with other waste disposal practices in the area, both existing and planned.

7.8 An analysis of each management and disposal option should be considered in light of a comparative assessment of the following concerns: human health risks, environmental costs, hazards (including accidents), economics and exclusion of future uses. If this assessment reveals that adequate information is not available to determine, with confidence, the likely effects of the proposed disposal option, including potential long-term harmful consequences, then this option should not be considered further. In addition, if the interpretation of the comparative assessment shows the disposal option to be less preferable compared to other management options, a permit for disposal should not be given.

7.9 Once the potential environmental effects have been formulated into Impact Hypotheses, the specific provisions of the field monitoring program can be designed (LC/LP 2007). Impact Hypotheses should be developed to address the effect of applying the management measures (i.e. engineering and operational controls). Modifications of dredging and disposal operations can be an effective means of controlling the potential for both physical and contaminant effects (Australia 2009).

7.10 An evaluation of alternatives for disposal operations could include a long list of exposure scenarios and possible effects. Impact Hypotheses cannot attempt to reflect them all. It must be recognized that even the most comprehensive Impact Hypotheses will not address all possible scenarios and unanticipated impacts. It is therefore imperative that the monitoring programme be linked directly to the hypotheses and serve as a feedback mechanism to verify the predictions and the adequacy of management measures applied to the disposal operation and at the disposal site. As a part of this process it is important to identify the sources and implications of consequential uncertainties.

7.11 Each assessment should conclude with a statement supporting a decision to issue or refuse a permit for disposal at sea.

8 PERMIT AND PERMIT CONDITIONS

8.1 A decision to issue a permit should only be made if all impact evaluations are completed, the monitoring requirements are determined (see section 9), and the results of the comparative assessment identify the acceptability of disposal at sea. The provisions of the permit shall ensure, as far as practicable, that environmental disturbance and detriment are minimized and the benefits maximized. Any permit issued shall contain data and information specifying:

.1 the types, amounts and sources of materials to be disposed;

.2 the location of the disposal site(s);

.3 the method of disposal; and

.4 monitoring and reporting requirements.

Permit conditions should be drafted in plain and unambiguous language to ensure that:

.1 only those materials which have been characterized and found acceptable for sea disposal, based on the assessment, are disposed at sea;

.2 the material is disposed at the selected site; and

.3 any necessary sediment management techniques selected during the comparative analysis are carried out.

8.2 If disposal at sea is the selected option, then a permit authorizing disposal must be issued in advance.

8.3 As a part of project planning and decision making, it is recommended that a consultation process be established with all relevant stakeholders, ensuring opportunities for public review and participation beginning from the earliest stages of the project through to completion, including the permitting process. Such coordination activities stimulate joint fact finding, often identifying opportunities to improve the overall project, including through

identification of alternative sediment management options and beneficial use opportunities. An example of stakeholder involvement is the mutual gains approach (e.g. Susskind and Landry 1991), where issue mapping is used to identify key stakeholders, interests and points of view that should be considered in the decision making process.

8.4 The permit is an important tool for managing disposal at sea of dredged material and will contain the terms and conditions under which the disposal may take place as well as provide a framework for assessing and ensuring compliance. In granting a permit, the hypothesized impact occurring within the boundaries of the disposal site, such as alterations to the physical, chemical, and biological compartments of the local environment is accepted by the permitting authority.

8.5 Regulators should employ best available technologies and practices in order to minimize environmental changes as far practicable, given technological and economic constraints.

8.6 Permits and the permit assessment process should be reviewed at regular intervals, taking into account the results of monitoring and the objectives of monitoring programmes. Review of monitoring results will indicate whether field programmes need to be continued, revised, or terminated, and will contribute to informed decisions regarding the continuance, modification, or revocation of permits. This provides an important feedback mechanism for the protection of human health and the marine environment.

9 MONITORING

9.1 Monitoring plays an important role in preventing pollution of the marine environment from dredged material disposal operations. Monitoring provides further critical feedback on the effectiveness of individual permit conditions, the evaluation process used in the permitting process, and the management of specific disposal sites. It can also increase knowledge about environmental conditions and the effects of an activity which can then serve as a basis for better assessment of environmental effects during future disposal projects.

9.2 Monitoring is used to verify that permit conditions are met – compliance monitoring – and that the assumptions made during the permit review and site selection process were correct and sufficient to protect the environment and human health – field monitoring. It is essential that such monitoring programmes have clearly defined objectives.

9.3 Compliance monitoring involves providing assurances that (1) the material to be disposed is the same as the material authorized under the permit; (2) the material is loaded, handled, and transported in accordance with the permit; (3) the volume is consistent with the permit; and (4) the disposal location and method are the same as specified by the permit.

9.4 Field monitoring involves sample collections at or near the disposal site and measurements made over different spatial or temporal scales. What is monitored will depend directly on the Impact Hypotheses that were constructed during the assessment of potential effects (section 7). Monitoring should be conducted with a clear purpose, and the information should be used to assess and modify management actions (future project evaluations, ongoing project operations, or site management policies) and future permitting decisions, as appropriate (LC/LP 2007, IMO 2009, LC/LP 2011).

9.5 The Impact Hypothesis forms the basis for defining field monitoring. The measurement programme should be designed to ascertain that changes in the receiving environment are consistent with predictions. The following questions should be answered:

.1 What testable hypotheses can be derived from the Impact Hypothesis?

.2 What measurements (type, location, frequency, performance requirements) are required to test these hypotheses?

.3 How should the data be managed and interpreted?

9.6 Measurements should be designed to determine whether the zone of impact and the extent of change outside the zone of impact differ from those predicted. This can be accomplished by designing a sequence of measurements in space and time that gauges both the spatial scale and magnitude of any observable changes. Frequently, these measurements will be based on a null hypothesis – that no significant change due to disposal activity can be detected.

9.7 Basing monitoring programmes on null hypotheses is a prospective (and not retrospective) approach in that acceptable and unacceptable adverse impacts are clearly defined before sampling begins, predicting what environmental resources are at risk and the magnitude and extent of that risk from disposal of dredged material at the site. The thresholds at which impacts will be adverse should be clearly defined prior to monitoring (Fredette et al. 1986, 1990). Considerations in this regard include:

.1 the monitoring programme should involve sampling before, during (where and when feasible), and after material is disposed at the site and at appropriate reference sites.

.2 Sampling design needs to consider the number of samples necessary to statistically test the hypotheses. The amount and type of testing necessary to support the decision will vary from project to project. It is important that the scale of the monitoring relates to the extent of the perceived problem and that the physical, chemical, or biological components of the monitoring programme relate to the cause of interest or concern (PIANC 2006a; CEFAS 2003).

.3 The design of the monitoring programme should include identification of the physical fate of the disposed dredged material, as the first step, in order to determine if the dredged material is confined to the disposal site. This information will influence the design of sampling to test null hypotheses that address both physical and biological effects of the disposed materials.

.4 The monitoring programme should be designed to help ensure an appropriate balance between the data collection and analysis effort. It should also ensure the confidence needed to make judgments on whether permit conditions are being met and if management actions are needed. The programme should be progressive in that sampling results, as well as advances in technology and scientific understanding, can be used to adapt and modify the monitoring programme or modify the questions being addressed by the null hypotheses.

9.8 Different levels of monitoring intensity should be designed into the programme. Each level incorporates its own testable hypotheses, environmental thresholds, sampling design, and management options should the environmental thresholds be exceeded. Each level should be designed such that there would be no need to implement the next more intensive level unless the null hypotheses are exceeded. Information from each monitoring level should have direct application for the decision-making process. Monitoring results may lead to decisions to conduct additional confirmatory monitoring, initiate monitoring at the next level, make specific changes in disposal site management (such as the need to perform

capping and/or permit modification/revocation). For example, if monitoring finds material outside of the disposal site, that finding could trigger the need to conduct sampling to assess the extent of transport outside of the disposal site and biological effects that may have resulted.

9.9 It may usually be assumed that suitable specifications of existing (pre-disposal) conditions in the receiving area are already contained in the application for disposal. If the specification of such conditions is inadequate to permit the formulation of an Impact Hypothesis, the licensing authority will require additional information before any final decision on the permit application is made.

9.10 The permitting authority is encouraged to take account of research information produced over time by academic institutions, government agencies, and other organizations that have performed studies relevant to dredged material management and disposal sites as authorities design and modify monitoring programmes.

9.11 The results of monitoring (or other related research) should be reviewed at regular intervals in order to determine the need for:

.1 modifying or terminating the field-monitoring programme;

.2 modifying or revoking the permit;

.3 redefining or closing the disposal site; and

.4 modifying the basis on which applications permits are made and assessed.

9.12 The monitoring activities described above require significant interaction between program designers, project managers, and regulators. Timely communication among these parties regarding monitoring progress and results is critical to understanding whether sampling within a particular level is sufficient, whether additional monitoring and assessment are needed, whether additional management actions should be undertaken, and to ensure the timely application of management actions when such actions are needed.

10 REFERENCES AND RESOURCE DOCUMENTS

(Editing Note: Formatting of references will occur as a part of editing and formatting for publication. Also, two sections will be created: 1) Literature Cited in the text and 2) Other Resource Documents.)

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ANNEX 3

TERMS OF REFERENCE FOR THE INTERSESSIONAL CORRESPONDENCE GROUP TO DEVELOP A STRATEGIC PLAN FOR THE LONDON CONVENTION AND PROTOCOL

The following paragraphs list the terms of reference and the work plan for the correspondence group developing the draft strategic plan.

1 Terms of reference:

.1 draft an outline which will serve as a starting point for discussing and agreeing on the content of a strategic plan for the LC/LP;

.2 use the IMO High-level Action Plan format as a basis for developing a Strategic Plan for the London Convention and Protocol, but add a column for performance indicators within the overarching strategic goals;

.3 avoid "ongoing" labels and put definite time frames on each identified, tangible target;

.4 address the role and possible restructuring of the existing documents, if needed; and

.5 report to the Scientific Groups meeting in May 2014 with an interim report and outline for their review, with a view to complete the LC/LP strategic plan by 2015.

2 Work plan:

.1 develop a few high-level strategic goals (under which other goals might be grouped) to start off and guide the next steps;

.2 evaluate and adjust goals contained in existing programmes of the LC/LP, using the base documents listed under item 8 below and any other relevant documents (e.g. Compliance Group Work Programme, the Joint Long-term Programme) with a view to answering the following questions;

.1 is the list of goals contained in existing documents complete?

.2 is there any duplication?

.3 is there a need to add any other goals?

.4 are goals articulated such that it will be clear when they are achieved?

.3 re-evaluate the high-level strategic goals developed in step 1 to determine whether all goals have a "home" under these high-level goals, or, whether the list developed in step 1 needs to be adjusted (through revision or addition of new high-level goals) to accommodate the complete list of goals; and

.4 list/develop outcomes to be achieved under each goal by developing milestones and deliverables that would lead to the achievement of each goal, with associated performance measures.

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ANNEX 4

RESOLUTION LP.4(8)

ON THE AMENDMENT TO THE LONDON PROTOCOL TO REGULATE THE PLACEMENT OF MATTER FOR OCEAN FERTILIZATION AND OTHER MARINE GEOENGINEERING ACTIVITIES

(Adopted on 18 October 2013)

THE EIGHTH MEETING OF CONTRACTING PARTIES TO THE 1996 PROTOCOL TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER 1972,

RECALLING the objectives of the 1996 Protocol to the London Convention ("London Protocol") that include the protection and preservation of the marine environment from all sources of pollution,

RECALLING that, in implementing the London Protocol, Contracting Parties are obliged to apply a precautionary approach to environmental protection,

RECOGNIZING the importance of the conservation and sustainable use of the oceans and seas and of their resources for sustainable development and that oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustaining it,

NOTING the ongoing work on geoengineering within the context of the Intergovernmental Panel on Climate Change (IPCC) and the relevant parts of the IPCC Fifth Assessment Report as well as the outcomes of the IPCC expert meeting on geoengineering (Lima, Peru, 2011),

NOTING United Nations General Assembly resolution A/RES/67/78 on "Oceans and the law of the sea" which recalled the importance of marine scientific research for understanding and conserving the world's marine environment and resources; and United Nations General Assembly resolution 62/215, concerning "Oceans and the law of the sea", adopted on 22 December 2007, which in its paragraph 98 "encourages States to support the further study and enhance understanding of ocean iron fertilization",

RECALLING resolution LC-LP.1(2008) that agreed that the scope of the London Convention and the London Protocol includes ocean fertilization activities,

REITERATING ongoing concerns about the potential environmental impacts of ocean fertilization and noting the concerns about ocean fertilization expressed by, inter alia, the United Nations General Assembly, the United Nations Conference on Sustainable Development, the Conference of the Parties to the Convention on Biological Diversity and the Intergovernmental Oceanographic Commission of UNESCO,

RECALLING resolution LC-LP.2(2010) which affirmed that the London Convention and the London Protocol should continue to work towards providing a global, transparent and effective control and regulatory mechanism for ocean fertilization and other activities that fall within the scope of the London Convention and the London Protocol and have the potential to cause harm to the marine environment,

CONCERNED about the potential widespread, long-lasting or severe impacts on the marine environment of the placement of matter from unregulated ocean fertilization activities and other proposed marine geoengineering techniques, and determined to put in place a science based, global, transparent and effective control and regulatory mechanism for such activities,

NOTING decisions X/33 and XI/20 of the Conference of the Parties to the Convention on Biological Diversity which invited Parties to ensure, in accordance with the precautionary approach, that no climate-related geoengineering activities take place "in the absence of science based, global, transparent and effective control and regulatory mechanisms for geoengineering and that the Eleventh Conference of the Parties to the Convention on Biological Diversity concluded "that there is no single geoengineering approach that currently meets basic criteria for effectiveness, safety and affordability and that approaches may prove difficult to deploy or govern",

EMPHASIZING that ocean fertilization and other types of marine geoengineering should not be considered as a substitute for mitigation measures to reduce carbon dioxide emissions,

1. **ADOPTS** the following amendments to the London Protocol, in accordance with Article 21 of the Protocol, as set out in the annex to this resolution;

2. **REAFFIRMS** that resolutions LC-LP.1(2008) and LC-LP.2(2010) continue to apply for all Contracting Parties, pending the entry into force of the amendments to the London Protocol set out in the annex to this resolution for those Contracting Parties that accept them;

3. **CONFIRMS** that the Assessment Framework for Scientific Research involving Ocean Fertilization adopted by the Contracting Parties to the London Convention and the London Protocol in 2010 is the relevant specific assessment framework referred to in annex 4 for ocean fertilization and should continue to be used to determine, with utmost caution, whether a proposed ocean fertilization activity constitutes legitimate scientific research that is not contrary to the aims of the London Protocol;

4. **REAFFIRMS** that new and relevant scientific information and knowledge on ocean fertilization and other marine geoengineering activities should continue to be reviewed by the Contracting Parties to the London Protocol in the context of the amendments; and

5. **DECIDES** that the Contracting Parties to the London Protocol should continue to develop guidance for listing additional marine geoengineering[1] activities in annex 4 that includes a multi-stakeholder approach consistent with article 21;

6. **DECIDES ALSO** that Contracting Parties to the London Protocol should undertake further work to develop the arrangements for seeking independent expert advice referred to in paragraph 12 of annex 5.

[1] See also explanatory text in the Report of the Meeting of Contracting Parties, paragraph 4.12.

ANNEX

AMENDMENTS TO ARTICLE 1 AND NEW ARTICLE 6*BIS* AND NEW ANNEXES 4 AND 5

Article 1

DEFINITIONS

Add new paragraph, as follows:

"5*bis* "Marine geoengineering" means a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or its impacts, and that has the potential to result in deleterious effects, especially where those effects may be widespread, long lasting or severe."

Add new article, as follows:

"Article 6*bis*

MARINE GEOENGINEERING ACTIVITIES

1 Contracting Parties shall not allow the placement of matter into the sea from vessels, aircraft, platforms or other man-made structures at sea for marine geoengineering activities listed in annex 4, unless the listing provides that the activity or the subcategory of an activity may be authorized under a permit.

2 Contracting Parties shall adopt administrative or legislative measures to ensure that the issuance of permits and permit conditions comply with provisions of annex 5 and takes into account any Specific Assessment Framework developed for an activity and adopted by the Meeting of the Contracting Parties. A permit shall only be issued after the activity has undergone assessment which has determined that pollution of the marine environment from the proposed activity is, as far as practicable, prevented or reduced to a minimum. A permit shall only be issued if the outcome of the assessment is that the activity is not contrary to the aims of the Protocol.

3 Article 4 does not apply to activities listed in annex 4."

Add new annex, as follows:

"Annex 4

MARINE GEOENGINEERING ACTIVITIES

1 OCEAN FERTILIZATION

.1 Ocean fertilization is any activity undertaken by humans with the principal intention of stimulating primary productivity in the oceans. Ocean fertilization does not include conventional aquaculture, or mariculture, or the creation of artificial reefs.

.2 All ocean fertilization activities other than those referred to in paragraph .3 shall not be permitted.

.3 An ocean fertilization activity may only be considered for a permit if it is assessed as constituting legitimate scientific research taking into account any specific placement assessment framework."

Add new annex, as follows:

"Annex 5

ASSESSMENT FRAMEWORK FOR MATTER THAT MAY BE CONSIDERED FOR PLACEMENT UNDER ANNEX 4

GENERAL

1 The purpose of this Framework is:

.1 to assess placement activities listed in annex 4; and

.2 to be the basis for developing Specific Assessment Frameworks for placement activities listed in annex 4.

2 Specific Assessment Frameworks developed for placement activities listed in annex 4 shall meet the requirements of this annex and may provide further guidance for assessing and issuing permits.

3 Parties meeting the terms of any Specific Assessment Framework that has been adopted by the Parties shall be deemed to be in compliance with this annex.

DESCRIPTION OF ACTIVITY

4 It first has to be determined whether the proposed activity is an activity covered by the listing in annex 4 and may be permitted in accordance with that annex. The determination requires a full description of the proposed placement activity, including its purpose and covering all stages. It furthermore requires a description of both the working practices during the different stages and the wastes produced (if any) in the relevant stage.

5 The proposal shall demonstrate that:

- the proposed activity is for a purpose other than mere disposal;
- it is designed to fulfil its purpose;
- the rationale, goals, methods, scale, timings and locations as well as predicted benefits and risks are stated as a clear justification for the proposal;
- the proposed activity has the financial resources available to fulfil the programme of work before it commences.

6 A detailed description and characterization of the placement and all its constituents is an essential precondition for the assessment of the proposed activity and the basis for a decision as to whether a permit may be issued. If the proposed activity is so poorly characterized that proper assessment cannot be made a permit shall not be issued.

Marine Scientific Research related to Marine Geoengineering

7 Potential marine geoengineering techniques may require specific marine scientific research in order to, inter alia:

- better understand the natural processes which will be affected;
- understand their potential impacts on the marine environment;
- understand their potential efficacy for geoengineering purposes; and
- be able to effectively apply the assessment framework(s) to proposals for marine geoengineering

8 In case of such a specific marine scientific research activity, the following considerations apply:

- the proposed activity is designed to answer questions that will add to scientific knowledge. Proposals should state their rationale, research goals, scientific hypotheses and methods, scale, timings, duration and locations with clear justification for why the expected outcomes cannot reasonably be achieved by other methods.
- the research methodology to be applied should be appropriate and based on best available scientific knowledge and technology. The methodology should be described in sufficient detail to allow a peer review.
- the proposed activity is subject to scientific peer review at appropriate stages in the assessment process.
- economic interests do not influence the design, conduct and/or outcomes of the proposed activity. There should not be any financial and/or economic gain arising directly from the experiment or its outcomes. This does not preclude payment for services rendered in support of the experiment or future financial impacts of patented technology.
- the proponents of the proposed activity make a commitment to publish the results in peer reviewed scientific publications and include a plan in the proposal to make the data and outcomes publicly available in an appropriate and specified time-frame.
- the proposed activity has the financial resources available before the work commences to fulfil the program of work.

9 Paragraphs 4 and 6 above also apply to marine scientific research.

CONSULTATION

10 Where the placement activity proposed for consideration by a Contracting Party may have any effect in any area of the sea in which another State is entitled to exercise jurisdiction in accordance with international law or in any area of the sea beyond the jurisdiction of any State, potentially affected countries and relevant regional intergovernmental agreements and arrangements should be identified and notified and a plan should be developed for ongoing consultations on the potential impacts, and to encourage scientific cooperation.

11 Contracting Parties should encourage proponents of listed activities to initiate early consultations with stakeholders so that they can address any issues prior to submitting proposals. Contracting Parties shall establish a consultation process with all relevant stakeholders nationally or internationally when a proposal is submitted. This consultation process shall be carried out during the assessment process and before a final permit decision is made. Consent should be sought from all countries with jurisdiction or interests in the region of potential impact without prejudice to international law. Where the placement activity has the potential to have any effects on an area subject to a regional intergovernmental agreement or arrangement, the process should include consultation with the relevant regional organization, with a view to ensuring consistency with applicable regional objectives and requirements.

12 Contracting Parties should consider any advice on proposals for activities listed in annex 4 from independent international experts or an independent international advisory group of experts, especially in situations where paragraph 10 applies. The advice could address scientific, technical, social or economic aspects of the proposal. It shall, as appropriate, include a peer review of the information and data provided by the proponent with regard to its scientific and technical quality. In situations where paragraph 10 applies, potentially affected countries could seek such advice from independent international experts or an independent international advisory group of experts.

INFORMATION FOR ASSESSMENT

13 A common set of information is required for each of the assessment elements of the framework below, namely:

- Placement site selection
- Assessment of matter to be placed into the marine environment
- Assessment of potential effects including the Impact Hypothesis
- Risk management
- Monitoring including the environmental baseline.

PLACEMENT SITE SELECTION

14 In order to address placement site selection, Contracting Parties shall require the following information, as appropriate, to evaluate and to justify the selection of the site(s):

- the physical, geological, chemical, and biological conditions at the proposed site and the area of potential impact, and the uncertainties in these conditions in relation to the proposed activity;
- the impact on amenities, values and other uses of the sea at the proposed site and in the area of potential impacts;
- any constituent fluxes associated with the activity in relation to existing fluxes of substances in the marine environment; and
- economic and operational feasibility.

ASSESSMENT OF MATTER TO BE PLACED INTO THE MARINE ENVIRONMENT

15 Characterization and assessment of matter proposed to be placed into the marine environment, including its constituents shall take into account as appropriate:

.1 origin, total amount, form and average composition and fate;

.2 properties: physical, chemical, biochemical and biological;

.3 toxicity;

.4 persistence: physical, chemical and biological; and

.5 accumulation and biotransformation in biological materials or sediments.

ASSESSMENT OF POTENTIAL EFFECTS

16 Assessment of potential effects shall lead to the "Impact Hypothesis", a concise statement of the expected consequences of the placement activity within the area of the activity and within the area of potential impacts, including transboundary effects. It provides a basis for deciding whether to approve, reject or suggest revisions to the proposed placement activity and for defining risk management and mitigation measures and environmental monitoring requirements.

17 The assessment of potential effects should integrate information on the characteristics of the proposed placement activity, conditions at the proposed site(s), any relevant fluxes, and any proposed construction techniques. The assessment shall specify the potential effects on human health, on marine ecosystem structure and dynamics including sensitivity of species, populations, communities, habitats and processes, amenities and other legitimate uses of the sea. It shall define the nature, temporal and spatial scales and duration of expected impacts based on reasonably conservative assumptions.

18 An analysis of the proposed placement activity should be considered in the light of an assessment of the following concerns: human health risks, environmental costs, hazards, (including accidents), economics and exclusion of future uses. Cumulative impacts from repeated activities or from other activities may also be a relevant consideration. If this assessment reveals that adequate information is not available to determine the likely effects of the proposed placement activity then this activity shall not be considered further.

19 Each assessment of potential effects shall conclude with a statement supporting a decision to approve, reject or suggest revisions to a proposed placement activity.

RISK MANAGEMENT

20 Risk Management procedures are necessary to ensure that, as far as practicable, environmental risks are minimized, inter alia, through mitigation and contingency planning, and the benefits maximized and that a precautionary approach is applied.

21 Strategies to manage or mitigate risks need to be appropriate for the risks under consideration. They may be imposed as additional conditions by a Contracting Party or included as an intrinsic part of the proposal. The strategies may include temporal, spatial or operational restrictions.

22 Contingency planning will also need to be considered for responding to monitoring in cases where the Impact Hypothesis is found to be incorrect. This may include the cessation of placement activities.

MONITORING

23 A well-designed monitoring regime is necessary and should consider both short and long-term impacts and, where possible, determine whether the activity has achieved its purpose.

24 The purpose of monitoring is to verify that permit conditions are met – compliance monitoring – and that the assumptions made during the permit review and site selection process were correct and sufficient to protect the environment and human health – field monitoring. It is essential that such monitoring programmes have clearly defined objectives. The type, frequency and extent of monitoring will depend on the Impact Hypothesis as well as on predicted local and regional consequences.

25 Monitoring is also used to determine the area of impact and to ascertain that changes are within the range of those predicted. The establishment of baseline conditions prior to a placement activity as well as monitoring of control sites is essential for ongoing monitoring and the detection of any impacts beyond those predicted.

PERMIT AND PERMIT CONDITIONS

26 A decision to issue a permit shall only be made if:

.1 the assessment has been satisfactorily completed and has shown that the proposed activity is an activity covered by the listing in annex 4 and may be permitted in accordance with that annex;

.2 the activity is designed to fulfil its purpose. It has to be demonstrated that the proposed activity has the financial resources available before it commences to fulfil the programme of work including any permit conditions requiring e.g. mitigation, contingency planning and monitoring;

.3 all impact evaluations are satisfactorily completed;

.4 the risk management and monitoring requirements have been determined;

.5 conditions are in place to ensure that, as far as practicable, environmental disturbance and detriment would be minimized and the benefits maximized;

.6 the consultation requirements are fulfilled pursuant to paragraphs 10, 11 and 12;

.7 it is determined that pollution of the marine environment from the proposed activity is, as far as practicable, prevented or reduced to a minimum, therefore not contrary to the aims of the Protocol.

27 In case that adequate information is not available to make the determinations in paragraph 26, the permitting authority shall request additional information before taking a decision or shall not issue a permit.

28 The provisions of the permit shall ensure, as far as practicable, that risks for human health and the marine environment are avoided, environmental disturbance and detriment are minimized and the benefits maximized. Any permit issued shall contain conditions specifying among others:

.1 the types and sources of matter to be placed;

.2 the location of the placement site(s);

.3 the methods to be used in achieving the placement activity;

.4 risk management, monitoring and reporting requirements; and

.5 removal and/or disposal/reuse/recycling of items, as appropriate, at the end of placement activity.

29 Permits should be reviewed at regular intervals, taking into account the results of monitoring, the objectives of monitoring programmes and relevant research. Review of monitoring results will indicate whether field programmes need to be continued, revised or terminated and will contribute to informed decisions regarding the continuance, modification or revocation of permits. Monitoring provides an important feedback mechanism into future permitting decisions for the protection of human health and the marine environment.

REPORTING

30 The outcomes of any assessment and documentation of any permit issued shall be reported to the Secretariat and shall be made publicly available at or shortly after the time the decision is made. The Secretariat should then inform Contracting Parties."

CONSEQUENTIAL AMENDMENTS

Consequential amendments are shown, as follows:

Article 1.9 of the Protocol is amended as follows: "Permit" means permission granted in advance and in accordance with relevant measures adopted pursuant to article 4.1.2, 6*bis* or 8.2

Article 3.1 of the Protocol is amended as follows: "In implementing this Protocol, Contracting Parties shall apply a precautionary approach to environmental protection from dumping of wastes or other matter or from placement of matter for marine geoengineering activities which may be considered for permits according to annex 4".

Article 9.1.2 of the Protocol is amended as follows: "keep records of the nature and quantities of waste or other matter for which ~~dumping~~ permits have been issued and where practicable the quantities actually dumped, or placed in accordance with article 6*bis*, ~~,~~ and the location, time and method of dumping or placement; and"

Article 9.2 of the Protocol is amended as follows: "The appropriate authority or authorities of a Contracting Party shall issue permits in accordance with this Protocol in respect of wastes or other matter intended for dumping or, as provided for in article 6*bis*, placement or, as provided for in article 8.2, incineration at sea:"

Article 9.3 of the Protocol is amended as follows: "In issuing permits, the appropriate authority or authorities shall comply with the requirements of article 4 and article 6*bis*, together with such additional criteria, measures and requirements as they may consider relevant."

Article 10.1.2 of the Protocol is amended as follows: "vessels and aircraft loading in its territory the wastes or other matter which are to be dumped, ~~or~~ incinerated, or placed in accordance with article 6*bis*, at sea; and"

Article 10.1.3 of the Protocol is amended as follows: "vessels, aircraft and platforms or other man-made structures believed to be engaged in dumping, ~~or~~ incineration, or placement in accordance with article 6*bis*, at sea in areas within which it is entitled to exercise jurisdiction in accordance with international law."

Article 13.1 of the Protocol is amended as follows: "Contracting Parties shall, through collaboration within the Organization and in coordination with other competent international organizations, promote bilateral and multilateral support for the prevention, reduction and where practicable elimination of pollution caused by dumping or placement of matter for marine geoengineering activities as provided for in this Protocol to those Contracting Parties that request it…".

Article 18.1 of the Protocol is amended as follows: "Meetings of Contracting Parties or Special Meetings of Contracting Parties shall keep under continuing review the implementation of this Protocol and evaluate its effectiveness with a view to identifying means of strengthening action, where necessary, to prevent, reduce and where practicable eliminate pollution caused by dumping, and incineration, or placement in accordance with article 6*bis*, at sea of wastes or other matter. To these ends, Meetings of Contracting Parties or Special Meetings of Contracting Parties may:"

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ANNEX 5

DRAFT GUIDANCE ON A PROCEDURE FOR CONSIDERING THE INCLUSION OF NEW ACTIVITIES IN ANNEX 4 TO THE LONDON PROTOCOL[1] [CONSIDERATION OF POTENTIAL MARINE-GEOENGINEERING ACTIVITIES AND PROCEDURE FOR CONSIDERING THEIR INCLUSION IN ANNEX 4 TO THE LONDON PROTOCOL]

SECTION 1: INTRODUCTION

1. Proposed new article 6*bis* of the London Protocol (together with proposed new annex 4 "Marine Geoengineering Activities", annex 5 "Assessment Framework for Matter that may be Considered for Placement under annex 4" and consequential amendments) is designed to create:

    1.1. a legally binding regime for ocean fertilization, incorporating an assessment and permit system for legitimate scientific research and a prohibition on any other ocean fertilization activities, and

    1.2. a legally binding framework that is adaptable to allow for possible future regulation of other marine geoengineering activities.[2]

2. A marine geoengineering activity would need to be listed in new annex 4 in order for it to be regulated under article 6*bis*. For the time being the only listed activity is ocean fertilization, but it is envisaged that other marine geoengineering activities could be included through subsequent amendments to annex 4.

3. Article 22 of the London Protocol describes how annexes are amended and would apply equally to the two new annexes. It describes how amendments are proposed; what factors are to be considered in proposing amendments; and how amendments may be adopted and enter into force.

4. The purpose of this guidance note is to provide a recommended procedure for considering the inclusion of new activities in annex 4 prior to the formal submission of a proposed amendment under article 22. The guidance includes advice on information that is likely to be needed in order for Contracting Parties to take a view on the potential listing of a new marine geoengineering activity and the process which Contracting Parties are likely to follow in assembling and reviewing such evidence.

5. This guidance emphasizes the aspects which are most important, but is not meant to be exclusive.

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1 See annex 2 of the meeting report of the 4th meeting of the intersessional working group on ocean fertilization LP CO2/WP.1.

2 "Marine geoengineering" means a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or its impacts, and that has the potential for widespread, long-lasting or severe effects.

SECTION 2: PROCEDURE FOR CONSIDERING A NEW ACTIVITY FOR INCLUSION IN ANNEX 4 PRIOR TO FORMAL SUBMISSION OF A PROPOSED AMENDMENT UNDER ARTICLE 22 OF THE LONDON PROTOCOL

6. Article 22 sets out the formal requirements for a Contracting Party to submit a proposed amendment to a London Protocol Annex. This guidance[3] does not affect the right of any Party to submit an amendment that is in accordance with article 22.

7. However, in view of the complexity of marine geoengineering activities and the range of scientific technical and other issues that are likely to need to be considered, it is recommended that the following steps are followed before a formal proposal for amendment is prepared, in particular to ensure that Parties are satisfied that any proposed amendment will meet the requirements of the London Protocol, in particular article 22(2)[4]:

7.1 Proposing an issue for consideration under the procedure:

7.1.1 In accordance with the existing rules of procedure, any [London Protocol] Contracting Party, observer state, intergovernmental Organization, or accredited observer may raise an activity of concern either at [the] meeting of the Scientific Group or of the Contracting Parties or intersessionally;

7.1.2 Information should be provided covering the points in sections 3 and 4 of this guidance; but it is recognized that a first submission may be incomplete and there would be opportunities for further iterations to improve the initial information base, including input from external sources.

7.2 Review by the Scientific Group of the London Convention and the Scientific Group of London Protocol (hereafter referred to collectively as "The Scientific Groups"), insofar as this is provided for under their respective terms of reference[5]:

7.2.1 The Scientific Groups should review information on the scientific/technical considerations of the activity concerned, drawing on the initial submission and any other relevant and available information;

7.2.2 The Scientific Groups should as appropriate involve external experts, including those referred to in annex 5 or from other international bodies, to contribute to the review;

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3 An analogous procedure is in effect under the Basel Convention with respect to annexes VIII and IX (see Decision VIII/15).

4 Article 22(2) provides that amendments to the annexes other than annex 3 will be based on scientific or technical considerations and may take into account legal, social and economic factors as appropriate.

5 Resolution LP.2(2) on the *Terms of Reference for the Scientific Group under the London Protocol* and Resolution LC.59(29) on the *Terms of Reference for the Scientific Group under the London Convention*.

7.3 Advice by the Scientific Groups

7.3.1 The Scientific Group of the London Convention and the Scientific Group of the London Protocol should provide advice to the Meetings of their respective Contracting Parties on the review of the activity, including the robustness of the scientific/technical evidence, and any recommendations for further action to be taken;

7.3.2 The Scientific Group of the London Protocol should advise the Meetings of the Contracting Parties on the case for/against considering a listing in annex 4 of the London Protocol, and make appropriate recommendations.

7.4 Consideration by Contracting Parties

7.4.1 The Contracting Parties would review the advice of the London Protocol Scientific Group;

7.4.2 The Contracting Parties may take action as appropriate, including consideration of the following:

7.4.2.1 the extent to which the activity is of concern;

7.4.2.2 whether the activity is one which might be listed in annex 4 to the London Protocol; and

7.4.2.3 whether or not any further work might be undertaken, for example through the Scientific Groups or an intersessional group.

7.4.3 At the end of this process, including where a Meeting of Contracting Parties is of the view that a listing is desirable, a London Protocol Contracting Party would have to formally propose an amendment pursuant to article 22, before it can be considered for adoption by a Meeting of Contracting Parties.

8. [Article 22 of the London Protocol requires that amendments to the annexes be based on scientific or technical considerations and may take into account legal, social and economic factors as appropriate.]

DRAFT ANNEX

RATIONALE AND INFORMATION REQUIRED FOR A NEW ACTIVITY TO ENTER INTO THE PROCEDURE FOR CONSIDERING THE INCLUSION OF A NEW ACTIVITY IN ANNEX 4

1 [In order to consider the need for listing on annex 4, and to determine which activities, if any are proposed to be prohibited and which, if any, could be authorized under a permit, Contracting Parties will need information such as:]

1.1 Scientific/technical considerations

.1 Description and purpose of the proposed activity;

.2 Characterisation of the placement matter;

.3 Characterization of the activity;

.4 Characteristics of geographic area(s) and environmental conditions (e.g. deep sea or low nutrient areas), where the matter might be placed;

.5 Potential effects on human health, ecosystems, other legitimate uses of the marine environment;

.6 Whether the activity has the potential to result indeleterious effects, and whether those effects may be widespread, long-lasting or severe;

.7 The availability of measures to protect the marine environment from the effects of the activity;

.8 Efficacy of the activity in achieving its purpose (e.g. in counteracting anthropogenic climate change or its impacts);

.9 Current state of knowledge including confidence levels and any relevant references in scientific journals, official documents, actual practice history, envisioned future activity etc.

2 [Contracting Parties may also consider social and economic factors such as whether the activity, or regulation of the activity, could have important social and economic effects, including distributional effects, e.g. affecting certain countries or population groups.]

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ANNEX 6

GUIDANCE ON THE IMPLEMENTATION OF ARTICLE 6.2 ON THE EXPORT OF CO_2 STREAMS FOR DISPOSAL IN SUB-SEABED GEOLOGICAL FORMATIONS FOR THE PURPOSE OF SEQUESTRATION

1 Introduction

1.1 At the 2009 meetings of the governing bodies, an amendment was adopted to article 6[1] to add a paragraph 2 that would allow export of carbon dioxide streams for disposal in sub-seabed geological formations. It provides as follows:

> "*2 Notwithstanding paragraph 1, the export of carbon dioxide streams for disposal in accordance with annex 1 may occur, provided that an agreement or arrangement has been entered into by the countries concerned. Such an agreement or arrangement shall include:*
>
> *.2.1 confirmation and allocation of permitting responsibilities between the exporting and receiving countries, consistent with the provisions of this Protocol and other applicable international law; and*
>
> *.2.2 in the case of export to non-Contracting Parties, provisions at a minimum equivalent to those contained in this Protocol, including those relating to the issuance of permits and permit conditions for complying with the provisions of annex 2, to ensure that the agreement or arrangement does not derogate from the obligations of Contracting Parties under this Protocol to protect and preserve the marine environment.*
>
> *A Contracting Party entering into such an agreement or arrangement shall notify it to the Organization.*"

1.2 This amendment is not yet in force[2], but this guidance is intended to assist Contracting Parties, for whom the amendment enters into force in future, with its implementation, highlighting the linkages to the assessment in the preceding Specific Guidelines[3].

2 Application of the amendment

2.1 The amendment will only apply to Contracting Parties to the Protocol who have accepted it, and then only after it enters into force according to the terms of article 21.3, i.e. on the 60th day after two thirds of the Contracting Parties have deposited an instrument of acceptance of the amendment with the Organization, or after entry into force, on the 60th day after a Party has accepted it. Under article 34 of the Vienna Convention on the Law of Treaties, obligations cannot be imposed on non-Contracting Parties to a treaty without their consent[4]. Compliance with the Protocol's provisions remains the full responsibility of its Contracting Parties. In particular, Contracting Parties are responsible for ensuring that an

1 Resolution LP.3(4) was adopted on 30 October 2009.

2 As of the date of adoption of this guidance [please insert appropriate date].

3 For purposes of this annex, the words Specific Guidelines refer to the preceding Specific Guidelines on CO_2 Sequestration.

4 Article 34 provides: "A treaty does not create either obligations or rights for a third State without its consent."

appropriate agreement or arrangement, as specified in article 6.2 of the Protocol, is concluded prior to exporting carbon dioxide streams to non-Contracting Parties. As noted in preambular paragraph 11 of resolution LP.3(4) adopting the amendment: "Stressing that the accountability for compliance with the provisions of the Protocol will rest with the Contracting Party in the case of export to non-Contracting Parties;". Contracting Parties involved in agreements or arrangements should make provisions in these agreements or arrangements for requirements on how to legally cover any failure to comply with the terms of the agreements or arrangements by any of the States involved.

2.2 The amendment provides that any agreement or arrangement entered into by a Contracting Party shall be notified by it to IMO.

3 The content of agreements and arrangements

3.1 The amendment allows what was otherwise prohibited under article 6.1, that is, the export of carbon dioxide streams for disposal in accordance with annex 1 of the Protocol, provided that an agreement or arrangement has been entered into by the countries/States[5] concerned. This is true in all cases, whether the export is to a Contracting Party or to a non-Contracting Party.

3.2 The word "agreement" refers to a legally binding agreement, which between States could take the form, for example, of a memorandum of agreement or a treaty. An "**arrangement**" between States refers to something non-binding, such as a memorandum of understanding (MoU).

3.3 To be in accordance with annex 1, paragraph 1.8, the material exported must be "carbon dioxide streams from carbon dioxide capture processes for sequestration". Pursuant to annex 1, paragraph 4, the disposal must be into a sub-seabed geological formation; the streams must consist overwhelmingly of carbon dioxide, although they may contain incidental associated substances derived from the source material and the capture and sequestration processes used; and no wastes or other matter may be added to the stream for the purpose of disposing of those wastes or other matter. The agreement or arrangement should confirm that these requirements are met.

3.4 The amendment then goes on to describe what the agreement or arrangement must include.

Confirmation and Allocation of Permitting Responsibilities (article 6.2.2.1)

3.5 In all cases, whether the export is to a Contracting Party or a non-Contracting Party, the agreement or arrangement must include confirmation and allocation of permitting responsibilities between the exporting and receiving countries, consistent with the provisions of the Protocol and other applicable international law. Thus, while there is flexibility given between the two States as to the content of their agreement or arrangement, it must be consistent with both the Protocol's provisions and those of applicable international law, such as customary international law of the sea, the United Nations Convention on the Law of the Sea (UNCLOS) and relevant regional agreements.

[5] "States" is used here, rather than "party" to the agreement or arrangement so as not to be confused with Contracting Parties to the Protocol.

3.5.1 Consistency with the provisions of the Protocol

3.5.1.1 The amendment requires that the allocation of permitting responsibilities between the exporting and receiving countries be consistent with the provisions of the Protocol. Article 9 sets forth obligations with respect to the issuance of permits and reporting, including the following:

> "*9.2 The appropriate authority or authorities of a Contracting Party shall issue permits in accordance with this Protocol in respect of wastes or other matter intended for dumping or, as provided for in article 8.2, incineration at sea:*
>
> *.1 loaded in its territory; and*
>
> *.2 loaded onto a vessel or aircraft registered in its territory or flying its flag, when the loading occurs in the territory of a State not a Contracting Party to this Protocol."*

3.5.1.2 The amendment requires that there must be an agreement or arrangement that confirms and allocates permitting responsibilities as between the exporting and receiving country. Article 9.2 provides that a Contracting Party is responsible for the issuance of a permit where a CO_2 stream is loaded in its territory and where a vessel registered in its territory or flying its flag loads a CO_2 stream in the territory of a non-Contracting Party for purposes of export to other countries for disposal into a sub-seabed geological formation. In addition to these responsibilities, article 4 indicates that the dumping of waste or other matter listed in annex 1 requires a permit. Depending on the facts of a given export scenario, there could be several countries involved, and therefore the agreement or arrangement would need to reflect the appropriate permitting responsibilities of each.

3.5.2 Consistency with other applicable international law

3.5.2.1 In addition to the provisions of the Protocol, the amendment requires that the allocation of permitting responsibilities between the exporting and receiving countries be consistent with other applicable international law. For example, customary international law, including as reflected in the United Nations Convention on the Law of the Sea, establishes rights and obligations of States with regard to activities within different maritime zones and for the protection and preservation of the marine environment. Regional agreements regarding uses of the sea and protection of the marine environment may also be relevant.

3.5.3 Compliance with the Protocol and annex 2

It should be noted that when two Contracting Parties are involved in export of CO_2 streams for storage in sub-seabed geological formations, each is already required to comply with the provisions of annex 2 and the Protocol.

3.6 Exports to non-Contracting Parties (article 6.2.2.2)

3.6.1 While subparagraph 6.2.2.1 is relevant to all exports, subparagraph 2.2.2 specifically addresses the case of export of CO_2 to a non-Contracting Party. Subparagraph 2.2.2 requires that the provisions of the agreement or arrangement must at a minimum be equivalent to those contained in the Protocol – including those relating to the issuance of permits and permit conditions for complying with the provisions of annex 2 – to ensure that the agreement or arrangement does not derogate from the obligations of Contracting Parties under the Protocol to protect and preserve the marine environment.

3.6.1*bis* "Equivalent" can be interpreted to mean "*Having equal or corresponding import, meaning, or significance: chiefly of words and expressions*".[6] The provisions of agreements and arrangements would not have to be the same as the Protocol provisions, but this definition suggests that they should be equal in effect.

3.6.1*ter* Since under international law only Contracting Parties to the Protocol are bound by its provisions, the obligations under article 6.2.2.2 are upon the Contracting Party to the London Protocol which exports the CO_2 stream to a non-Contracting Party.

3.6.2 Issuance of permits: articles 4, 9.2 and 9.3 pertain to the issuance of permits. These requirements will be relevant, and continue to apply, to Contracting Parties exporting to non-Contracting Parties.

3.6.2.1 Matters flowing from articles 9.2, 9.3 and article 4 that should be considered when deciding what terms to put in agreements and arrangements include:

- The requirement for an equivalent to a permit – presumably some form of national authority authorization (article 4.1.2).
- The need for the permitting/authorizing State to adopt or have adopted measures that have the effect of ensuring that the issuance of permits and permit conditions comply with annex 2, something also addressed specifically in the amendment (article 9.3 links to 4.1.2; see more details under 3.6.3 below).
- Particular attention must be paid to opportunities to avoid dumping in favour of environmentally preferable alternatives (article 4.1.2). The Specific Guidelines will be of use here to determine how this requirement is met for storage of CO_2 streams.
- Possible additional criteria, measures and requirements that the authority considers relevant (article 9.3). In particular here, the Specific Guidelines should be referred to, to clarify those particular measures and requirements that are relevant for storage of CO_2 streams.

3.6.2.2 Subparagraph 6.2.2.2 requires provisions at a minimum equivalent to those contained in the Protocol in order to ensure that the agreement or arrangement does not derogate from the obligations of Contracting Parties under the Protocol to protect and preserve the marine environment. Thus, each element of annex 2 addressed below should be addressed with this standard in mind.

3.6.2.3 It should be noted that the non-derogation requirement is expressed as the outcome to be achieved by the equivalent provisions, and while it is not spelled out in the amendment exactly how this is to be done, this means there is flexibility for Contracting Parties on how this is addressed in the agreement or arrangement. However, the word "ensure" is a strong indicator that the agreement or arrangement needs to be sufficiently robust ("with equal import") so that the Contracting Party will be in a position to respond to other Contracting Parties.

3.6.2.4 The amendment, however, does not provide that a breach of the MoU or agreement becomes non-compliance of the exporting Contracting Party. The key is for the agreement or arrangement to meet the requirements of article 6.2 on its face. In case of a breach of an agreement or arrangement by a non-Contracting Party, the Contracting Party should engage in consultations to rectify any such breach and to consider whether the agreement or arrangement should be terminated. In the case of a significant ongoing breach by the non-Contracting Party, the Contracting Party should terminate the export.

[6] Online Shorter Oxford English dictionary.

3.6.3 Implementation of annex 2 and the Specific Guidelines

3.6.3.1 It should be noted that when two Contracting Parties are involved in the export of CO_2 streams for storage in sub-seabed geological formations, each is already required to comply with the provisions of annex 2 and the Protocol, which explains why there is no explicit mention in 6.2.2.1 that the agreement or arrangement between the Contracting Parties include details of how each will ensure compliance with the provisions of annex 2. However, because the export of CO_2 streams is transaction-based, the considerations on allocation of responsibility and sharing of information, and on the documentation in an agreement or arrangement of how each element of annex 2 will be complied with are also relevant to export between two Contracting Parties. Therefore the guidance below regarding compliance with annex 2 is relevant for export situations both between Contracting Parties and from a Contracting Party to a non-Contracting Party. Specific recommendations, however, focus on the case of a Contracting Party exporting to a non-Contracting Party.

3.6.3.3.1 Characterization of the Chemical and Physical Properties of the CO_2 Stream

It is most likely that the exporting country will be best able to characterize the composition, properties and quantity of the CO_2 stream. The exporting country would then share that characterization with the importing country in order that any agreement or arrangement can reflect expected quality, adherence to Action Lists[7] and any special precautions or mitigations needed for the secure import and storage of the CO_2 stream. The agreement or arrangement should reflect the actual results of the application of the Action Lists and should be applied prior to export. The country accepting the carbon dioxide stream should reassure itself of the quality of that characterization, including by undertaking its own characterization if necessary. Because the content of the CO_2 waste stream may change over time, the establishment of an ongoing monitoring information system could be useful to include in the agreement or arrangement.

3.6.3.3.2 Disposal site selection and characterization

The receiving country is likely to be in a better position to select and assess the storage site and to share that characterization with the exporting country. In as much as permits may have to be issued by both countries, either due to Protocol requirements or pursuant to an agreement or arrangement, the competent authorities in each country should apply the Specific Guidelines and use shared data. In the case of export to a non-Contracting Party, the Contracting Party should assure itself that the provisions of section 6 of the Specific Guidelines on selection and assessment of a storage site are reflected in the agreement or arrangement to help ensure that site assessment by non-Contracting Parties is sufficiently rigorous. Where this cannot be assured, the export should not occur.

3.6.3.3.3 Potential effects

In the same fashion, the country in whose territory the storage site is located is likely to be in the better position to assess the potential effects, and to share that assessment with the exporting country. In the case of export to a non-Contracting Party, the Contracting Party should assure itself that an assessment of potential effects has been undertaken, taking into

[7] One member of the correspondence group queried whether Action Lists should be specified. Previously, the Scientific Groups in 2012 had removed the following text from this paragraph: "Part of the characterization identified in annex 2 which needs to be satisfied will be with respect to Action lists and levels. The Specific Guidelines give general guidance on the purpose of Action levels but as levels are not prescribed, countries may arrive at different action levels. Although countries may negotiate Action lists and levels as part of their agreements or arrangements, the most precautionary approach would be to satisfy the Action Lists of all countries involved, or at a minimum the Action List of all Parties."

account section 7 of the Specific Guidelines. To that effect, the provisions of section 7 should be taken into account when drafting the agreement or arrangement.

3.6.3.3.4 Monitoring and Mitigation

The country in whose territory the storage site is located is likely in a better position to verify the compliance and field monitoring, and risk management arrangements, and to share that assessment with the exporting country. In the case of export to a non-Contracting Party, the Contracting Party should ensure that the provisions of section 8 of the Specific Guidelines are taken into account when drafting the agreement or arrangement.

3.6.3.3.5 Permit and conditions

Paragraph 17 of annex 2 of the Protocol provides that any permit issued shall contain data and information specifying:

.1 the types and sources of materials to be dumped;

.2 the location of the dump site(s);

.3 the method of dumping; and

.4 monitoring and reporting requirements.

It also notes that permits should be reviewed at regular intervals. The Contracting Party should ensure that the agreement or arrangement takes into account section 9 of the Specific Guidelines and provides for them to review a non-Contracting Party's permits in this context.

4 Conclusion

4.1 It may be that over time there will be a need to develop additional best practices for implementing the amendments to article 6. The optimal roles and responsibilities may become apparent as practical situations are negotiated over time, including which information is best supplied by which party to the transaction. Furthermore, it is likely that developing a final agreement or arrangement will involve a good deal of back and forth cooperation between two Contracting Parties, or between a Contracting Party and a non-Contracting Party.

4.2 It is thus proposed that this guidance be reviewed after the amendment has been in force for a reasonable period of time in order to assess whether this guidance should be supplemented or amended.

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ANNEX 7

REPORT OF THE SIXTH MEETING OF THE COMPLIANCE GROUP UNDER THE LONDON PROTOCOL

1 INTRODUCTION

1.1 The 6th Meeting of the Compliance Group under the 1996 Protocol to the London Convention 1972 was convened at the IMO Headquarters, London, on 14 to 16 October 2013 under the chairmanship of Ms. Robyn Frost (Australia).

1.2 The members of the Compliance Group in attendance were:

Ms. Robyn Frost (Australia)
Prof. Takahiro Ichinose (Japan)
Dr. Felicia Chinwe Mogo (Nigeria)
Ms. Anja Elisenberg (Norway)
Prof. Young Sok Kim (Republic of Korea)
Ms. Radia Razack (South Africa)
Mrs. Carla Pike (United Kingdom)

1.3 The members unable to attend were:

Mr. Wendly Elllis (Suriname)
Ms. Zhao Lei (China)

1.4 Observers from the following Contracting Parties to the London Protocol also attended the meeting:

CHINA
JAPAN
NIGERIA

1.5 Observers from the following Member Government not party to either the London Convention or the London Protocol also attended the meeting:

SINGAPORE

1.6 The Chairman of the B2C Steering Group, Ms. Anne-Marie Svoboda (the Netherlands), attended the meeting as an observer.

1.7 The Co-Chairs of the Correspondence Group on Low-Tech Monitoring, Dr. Andrew Birchenough (United Kingdom) and Ms. Suzanne Agius (Canada), also attended the meeting as observers.

2 ADOPTION OF THE AGENDA

2.1 The Group adopted the Provisional Agenda for the session, as presented in document LP-CG 6/1.

3 ORGANIZATIONAL MATTERS

3.1 The Group considered the organizational matters and agreed to arrange the order of work in such a way that those items which were related could be addressed together.

3.2 The Chair noted that representatives from the B2C Steering Group and the Correspondence Group on Low-Tech Monitoring had been invited to the meeting to assist in the Group's work. Ms. Margot Cronin from Ireland, the Chair of the Correspondence Group on Assessment of Dumping Reports, was also invited but unfortunately was unable to attend.

4 REVIEW OF INDIVIDUAL SUBMISSIONS

4.1 The Group noted that there were no individual submissions on non-compliance received, and that the meeting would focus mainly on systemic issues of non-compliance.

5 CONSIDERATION OF ANY REPORTS REFERRED UNDER PARAGRAPHS 6.2 AND 6.4 OF THE CPM

5.1 The Group noted that CPM paragraph 6.2 refers to the records Parties should keep under LP article 9.4.1, specifically articles 9.1.2 and 9.1.3, which concern dumping and monitoring reports that Parties are required to submit annually.

5.2 In 2009 the Group recommended that it would not review each Party's detailed report, but that it should review the summary documents noted below, as this is undertaken by the Scientific Groups. It was also agreed, in 2010, that the Chair of the Scientific Groups would notify the Compliance Group of any specific matter for its consideration. No such matters were so referred in 2013. The Group reviewed the following:

.1 the final summary report on permits issued in 2010 (LC 35/6); and

.2 the first draft summary report on permits issued in 2011 (LC 35/6/1).

5.3 In the ensuing discussion, the Group:

.1 noted that at its 5th meeting in 2012, the Group had looked at the draft summary report for permits issued in 2010 in detail and had recommended changes to the format of the report. The Chair confirmed that these suggested changes had been taken forward for the final draft summary report for 2010 (LC 35/6) and also carried through into the first draft summary report for permits issued in 2011 (LC 35/6/1);

.2 noted that the 2011 report was a draft report and so there was an opportunity for changes to be notified to the secretariat; and

.3 had no further comments on either the 2010 or the 2011 reports.

5.4 The Group discussed document LP-CG 6/4, submitted by the Correspondence Group on Assessment of Dumping Reports, and noted that:

.1 the report covered issues around drilling mud. This activity was not thought to be covered by the Protocol and so doubts were expressed as to whether the activity should be included in the report;

.2 it would be worth investigating whether there were more informative or effective ways to present the information contained in the reports. For example, it could be possible to present the information in a format showing the global total of quantities dumped followed by amounts dumped on a country by country basis. It was also suggested that the information on which the reports are based could be placed on a website and made accessible to Parties;

.3 there is tension between requesting more detailed and useful information from Parties, which may result in fewer countries reporting, and more basic reporting requirements, which more countries may be able to do, but will result in less useful information in terms of assessing environmental impacts from dumping;

.4 there were possible opportunities to make reporting more of a "two-way street", maximizing domestic benefits from reporting, for example through feeding into, or forming the basis for, domestic databases on dumping activities; and

.5 there were potential benefits from creating a new interactive web-based platform where Parties could get information, for example, on unusual permits issued by other Parties, and contact details of individual experts in Parties with practical experience in issuing permits. This sort of platform could provide an important information tool for countries with less practical experience.

5.5 The following actions were identified:

ACTION 1: Chair to ask the correspondence group why the document raised issues surrounding drilling mud and circulate the response to the Group.

ACTION 2: An intersessional working group, operating by email, would be established and would make recommendations as to options for implementing the ideas contained in points .2 to .5 above. Mr. Yusuf Bala (Nigeria) and Ms. Radia Razack (South Africa) volunteered to take part in the Group and the Chair would write following the meeting to request further volunteers and a Lead for the Group.

6 IDENTIFICATION AND REVIEW OF FACTORS CONTRIBUTING TO THE DIFFICULTIES EXPERIENCED BY PROTOCOL PARTIES IN FULFILLING THEIR REPORTING OBLIGATIONS UNDER ARTICLE 9.4.1 OF THE PROTOCOL

6.1 In 2012 the Group continued its activities to identify and review factors contributing to the difficulties experienced by Protocol Parties in fulfilling their reporting obligations under article 9.4.1 of the Protocol.

6.2 The Group noted that there was a downward trend in reporting, which is disappointing, considering the efforts by the Group and the Secretariat, including encouraging Parties to file "nil" reports when no permits have been issued. However the Group noted that the new electronic reporting module using GISIS is to be rolled out later this year and the Group hoped that this would make reporting easier.

6.3 One member of the Group (Ms. Radia Razack, South Africa) provided information on the work undertaken by South Africa to raise awareness in neighbouring countries on compliance, including through regional agreements such as the Abidjan and Nairobi Conventions.

6.4 Another member of the Group (Dr. Felicia Mogo, Nigeria) provided information on the action Nigeria is currently taking to improve compliance. This included the creation of a national task force and a scientific think tank Group. This action had been well received in Nigeria. Nigeria was also proposing to undertake outreach activities with the Anglophone countries of Western and Central Africa.

6.5 The Group was impressed with the activities taking place in South Africa and Nigeria and expressed interest in how the work could be used to inform other countries, for example by Nigeria taking a role in workshops in other African countries.

6.6 The Group then discussed further possible actions that could be taken by the Group and the Secretariat to assist Parties to fulfil their reporting obligations.

6.7 It was noted that in some countries' problems were fundamental, with basic elements of compliance missing. To address this, some of the ideas proposed were:

.1 the potential for more information being placed on a web-based platform was discussed. This would need to function as more than just a document store and would need to do more in assisting people in working with the information which is already available;

.2 a web-based platform could include template documents, step by step guides and individual contacts in other Protocol countries who could be contacted for advice;

.3 it was noted that often it is the IMO Permanent Representative that attends the Protocol meetings, which potentially raises problems with a lack of communication or miscommunication with officials "at home". The web-based platform could deal with this by providing details of the people responsible for implementing the Protocol on the ground and with expertise in particular areas; and

.4 it might also be possible for countries to "twin" with other countries and provide advice and expertise.

6.8 The Group identified the following actions:

ACTION 3: The Intersessional Group set up under ACTION 2 would also look into taking forward the ideas expressed in 6.6 above.

ACTION 4: Chair to continue to liaise with the Secretariat and the Compliance Group on Assessment of Dumping Reports and feed the outcomes back to the Group.

7 CONSIDERATION OF COMPLIANCE ISSUES RELATED TO THE "BARRIERS TO COMPLIANCE" PROJECT

7.1 In 2012 the Group, having further reviewed the activities being implemented under the B2C Project, agreed to explore with the B2C Steering Group the possibility to promote the development of national implementing legislation by Protocol Parties and by prospective Parties. Consultations on this matter were planned to be held intersessionally between the Compliance Group Chair, the Chair of the B2C Steering Group and the Secretariat.

7.2 The Group heard Ms. Anne-Marie Svoboda summarize the work of the project. The Group identified the following action:

ACTION 5: Ms. Svoboda would contact the Chair with ideas as to how the Compliance Group can assist with the B2C work, which the Chair would feed to the Group for comment.

8 EXPLORATION OF THE VIABILITY OF MAKING HISTORICAL DOCUMENTS RELATED TO THE DEVELOPMENT OF THE LONDON CONVENTION AND THE LONDON PROTOCOL AVAILABLE ON THE LC/LP WEBSITE

8.1 The Group recalled that in 2010, the Meetings of Contracting Parties (MCP) agreed that historical documents leading up to the adoption of the London Protocol and, if possible, those leading up to the adoption of the London Convention, should be made available on the website.

8.2 The Group noted that a full set of documents for LC are now available on the LC/LP website. The following action point was identified:

ACTION 6: Chair to contact Professor Lammers to confirm that this work is now complete, with the hope that this item can be taken off the agenda for the next meeting.

9 COMPLIANCE PROMOTION: DEVELOPMENT OF MATERIALS AND INPUTS INTO THE WORK OF OTHER LP BODIES

9.1 It was noted that the Group had already discussed and identified possible actions for compliance promotion. The Co-Chairs of the Correspondence Group on Low-Tech Monitoring updated the Group on its work and members of the Group had the chance to ask a number of questions.

9.2 The following action was identified:

ACTION 7: Dr. Birchenough will provide further information on the work of the correspondence Group to the Chair for circulation. If members of the Compliance Group wish to get more involved in the correspondence group, then they should contact Dr. Birchenough directly (andrew.birchenough@cefas.co.uk).

10 FUTURE WORK PROGRAMME OF THE COMPLIANCE GROUP UP TO AND INCLUDING ITS 7TH SESSION IN 2014

10.1 The Group reviewed its ongoing work programme for the period 2013 and 2014 and **recommended** its future work programme to be as follows:

.1 treat individual submissions of possible non-compliance as a priority in the work programme when they arise;

.2 continue the working relationship with the B2C Steering Group so that the work of the Compliance Group can both contribute to and benefit from the B2C Project;

.3 review dumping reports referred to the Compliance Group pursuant to paragraph 6.2 of the CPM, including where concerns have been identified by the LP Scientific Group;

.4 consistent with the CPM, encourage non-Parties to accede to the Protocol and provide assistance to Parties and prospective Parties to meet compliance obligations, including the designation of focal points. This would include work under Action 2 and Action 5 contained in paragraphs 5.5 and 7.2;

.5 continue to identify and review the factors contributing to the difficulties experienced by Contracting Parties in fulfilling their reporting obligations under article 9.4.1 of the Protocol; identify and review the factors contributing to the difficulties experienced by Contracting Parties in fulfilling their reporting obligations under article 9.4.2 of the Protocol; identify options to address those factors; and make recommendations for improving the rate of reporting under the Protocol and keep under review the presentation of the information contained in the reports;

.6 examine reports received under LP articles 9.4.2 and 9.4.3;

.7 continue to collect historical documents related to the development of the London Convention and explore the possibility of making the documents available on the LC/LP website. The Group will, in particular, try to locate the English versions of the documents identified by the previous Chair in his investigations, and as listed in documents LP-CG 5/8 and LP-CG 5/8/1;

.8 review and develop materials and inputs regarding its role in compliance promotion;

.9 examine the possibility to promote the development of implementing legislation by Protocol Parties and prospective Parties, and in particular advise Protocol Parties and prospective Parties that they should make requests for support by contacting the Secretariat directly; and

.10 contribute to the intersessional Correspondence Group on the development of a Strategic Plan for the London Convention and Protocol.

11 ANY OTHER BUSINESS

11.1 Under this item, the Group discussed the most effective timing to ensure participation of all members (for example outside normal meeting hours, e.g. in evenings) for its seventh session and the structuring of the agenda for that session.

11.2 The Group discussed the timing of the meeting. Weekend meeting was preferred in order to avoid the Group having to meet in parallel with Plenary; however it was noted that the IMO Council had not approved this for the current meeting due to budgetary implications. The option of meeting on the Sunday preceding the meeting of the Governing Bodies in a hotel room was discussed, although the cost implications of that were unclear.

11.3 It was noted that if the Group was to meet in parallel with Plenary it is very helpful to start the meeting early on the Monday so as to enable Group members to participate in the work of the LC/LP meetings later in the week.

11.4 Under this item the Group discussed the urgent need to expand its membership to be more representative of all five regional Groups, in particular the GRULAC and CEE regions.

11.5 The following actions were identified:

ACTION 8: The Group requested, if possible, to convene during the weekend prior to the meeting of the Contracting Parties.

ACTION 9: The Group recommended that the meeting of the Contracting Parties continue to support nomination for Compliance Group membership being made intersessionally by regional groups and approved by the Bureau.

12 ELECTION OF CHAIR AND VICE-CHAIR FOR THE NEXT TERM

12.1 Pursuant to paragraph 3.6 of the Compliance Procedures and Mechanisms (CPM), the Compliance Group re-elected Ms. Robyn Frost (Australia) as Chair and Prof. Takahiro Ichinose (Japan) as Vice-Chair for the next term.

12.2 It was noted that in 2014, the Group would need to nominate a new Chair and a new Vice-Chair.

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ANNEX 8

REVISED BARRIERS TO COMPLIANCE (B2C) IMPLEMENTATION PLAN
Planned LC/LP projects or workshops 2013-2015

Activity tracking No.	LC/LP projects or B2C workshops	Host country or organization	Scheduling or delivery dates	Estimated or actual cost (USD)
P-2011-04	Project: Work with IMO GISIS managers and staff to develop a data portal for the LC/LP Annual Electronic Reporting Format	IMO GISIS	End 2013	IMO in-kind
W-2013-02	National Workshop: Ratification and Implementation of the LP	Papua New Guinea	TBD	Approx $15,000
W-2013-03	National Workshop: Follow up on Ratification and Implementation of the LP	Senegal (Dakar)	TBD	Approx $60,000
W-2013-04	National Workshop: Follow up on Ratification and Implementation of the LP	Indonesia (Jakarta)	December 2013	Approx $10,000
W-2013-05	National Workshop: Ratification and Implementation of the LP	Chile	November 2013	Approx $10,000
W-2013-06	National Workshop: Ratification and Implementation of the LP	Peru	2014	Approx $10,000
W-2014-01	Regional Workshop: Ratification and Implementation of the LP	Islamic Republic of Iran	2014/2015	TBD
W-2014-02	Regional Workshop: Multiple activities related to the French Government's project to promote ratification and implementation of the LP	Francophone countries in Africa	TBD	TBD
W-2014-03	National Workshop: Ratification and Implementation of the LP	Russian Federation	TBD	TBD
W-2014-04	Regional Workshop: Ratification and Implementation of the LP in the West Africa Region	Ghana	TBD	TBD
W-2014-05	Regional Workshop: Ratification and Implementation of the LP in the wider Caribbean and Central America Region. Back-to-back with LC/SG 37 in 2014	New Orleans, USA	May 2014	TBD
W-2014-06	National Workshop: Ratification and Implementation of the LP	India	TBD	TBD
W-2014-07	Regional Workshop: Ratification and Implementation of the LP and follow up of workshop in 2011	Thailand	2014 or 2015	TBD
	Total Estimated Costs for Projects and B2C Workshops, excluding TBD values (2013-2015)			$105,000

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ANNEX 9

INFORMATION FLYER ON SPOILT CARGOES

MANAGING SPOILT CARGOES

Introduction

Occasionally during a voyage, cargo may spoil and mariners are faced with the need to manage the problem. This document summarizes the most important points that should be considered when dealing with spoilt cargo. For the full official text of Guidance on managing spoilt cargo, see document LC-LP.1/Circ.58 or MEPC.1/Circ.809 on the International Maritime Organization website.[1]

The ideal way to deal with cargo that spoils during a voyage is to offload it from the ship to be managed on land:

- To sell for an alternate use;
- To recycle salvageable materials; or
- To dispose of it in another environmentally safe manner.

Spoilt cargo should only be considered for disposal at sea when:

- There is a marked degree of urgency;
- Facilities on land are unavailable; and
- The dumping will not cause harm to human health or the environment.

London Convention and Protocol and MARPOL Annex V

The London Convention and Protocol regulate the dumping of wastes and other matter at sea. Under the Convention, certain wastes may be considered for disposal at sea if authorized by a national authority. The Protocol is more restrictive, where all dumping is prohibited unless explicitly permitted. Under the Convention and Protocol dumping does not include the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels. Under MARPOL Annex V regulations, discharge of garbage from ships is prohibited except as specifically permitted and discharge of animal carcasses is allowed in certain cases.[2]

Contingency plans for managing spoilt cargo

The shipowner or their representative should develop contingency plans to facilitate timely decision-making process by regulatory authorities in the port, coastal or flag State and minimize down time for the ship.

For ships routinely carrying the same cargo, vessel operators should develop contingency plans for dealing with the specific type of cargo should it spoil. Ships engaged in spot contract services should have general contingency plans in the event of cargo spoilage. Contingency plans should consider:

- An assessment of the potential for cargo spoilage to occur over a given route, including the risks, potential quantities and measures available to reduce spoilage;
- A process to notify the cargo owner, port authorities and regulatory authorities of the port, coastal or flag State that cargo has been spoilt;
- A process to decide if the spoilt cargo is to be managed as waste for disposal on land or sold for an alternative use;
- A process to determine the location and availability of land-based facilities that are authorized to receive the spoilt cargo, and make arrangements;
- If land-based options are not available, or practicable, a communications process setting out who at the port, coastal or flag State will be contacted for a permit for dumping at sea; and

- If dumping at sea is selected, a process and the information needed to obtain a permit.

Considerations for disposing of spoilt cargo

Existing documents that ships carry can provide much of the information needed for managing spoilt cargo. Key documents include bills of lading, cargo manifests, ship's logs, and the Garbage Record Book (as required by regulation 10 of MARPOL Annex V).

If ocean disposal is under consideration, documentation should include information necessary to obtain a dumping permit under the London Convention or Protocol from an appropriate government permitting authority, including descriptions of:

- the quantities and properties of the spoilt cargo;
- how the cargo was spoiled;
- how the spoilt cargo is packaged and how it would be released;
- the proposed dumping site including geographical position (latitude and longitude), depth of water and distance from nearest coast;
- the potential effects and expected environmental consequences of the disposal of the spoilt cargo; and
- Contact information for the office that the master of the vessel, ship owner or cargo owner will contact to apply for an ocean disposal permit. This information should include 24-hour accessibility numbers for that office.

Consideration must be given to the practical availability of alternative land-based methods of treating, disposal or elimination of spoilt cargo.

An ocean dumping permit may be refused if the permitting authority determines that appropriate opportunities exist to reuse, recycle or treat the waste without undue risk to human health or the environment or disproportionate costs. Such options may include resale for alternate use, recycling, landfill, secure landfill, incineration, composting and treatment for use or landfill.

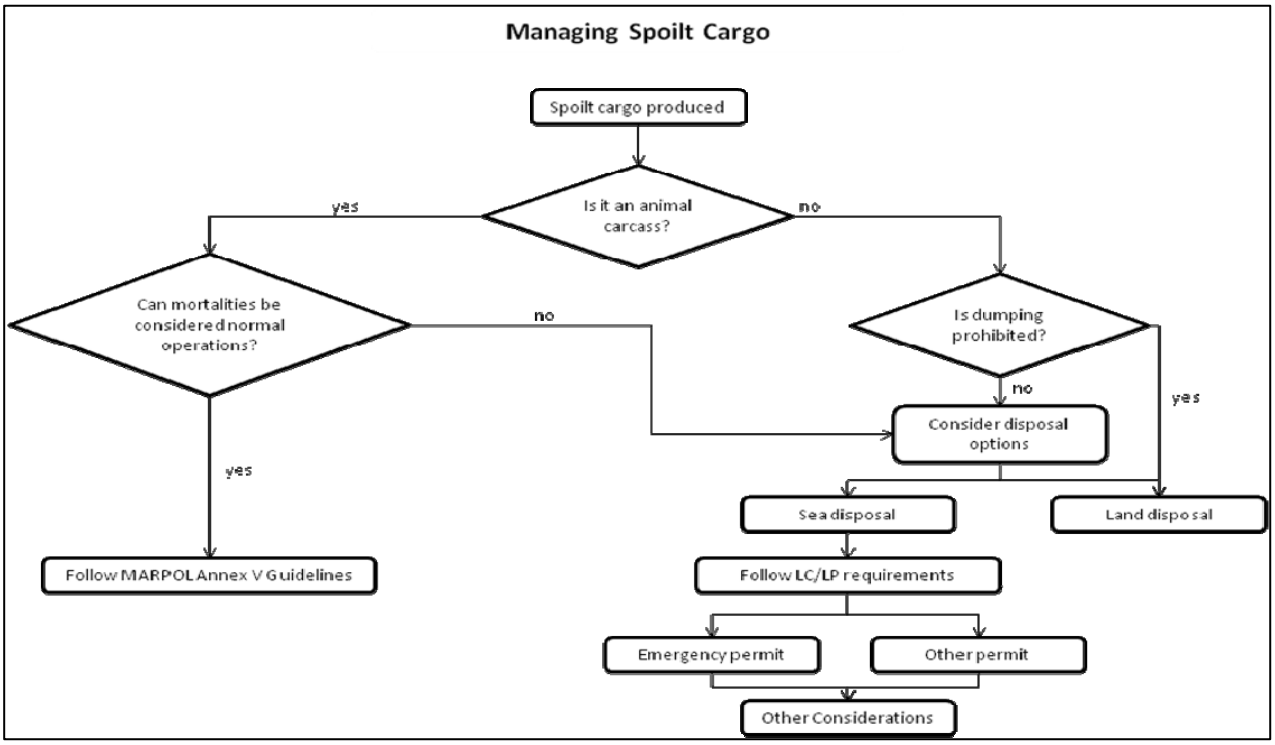
Contacts for the appropriate State Governments for issuing permits can be obtained by contacting the Office for the London Convention and Protocol at the International Maritime Organization (IMO) at: olcp@imo.org.

Measures for temporary storage

A disposal at sea permit requires a detailed assessment of the waste and other requirements and can take a significant amount of time to obtain. Contingency measures should be in place to temporarily allow for storage of the spoilt cargo to be disposed of while a permit is obtained,

allowing the transporting vessel to proceed with its normal activities.

Plans for temporary storage would need to be considered in any permit application review and should include location, logistics for transportation and handling, expected time frames, containment measures, obtaining any necessary permits, emergency response (if needed), and contingencies.



Emergency permits

In emergencies posing an unacceptable threat to human health, safety or the marine environment and admitting no other feasible solution, an emergency permit may be issued. Disposal at sea under an emergency dumping at sea permit would need to be conducted in a manner that minimizes the impact on the marine environment.

Mitigation for invasive species and pathogens in some spoilt cargoes

Some spoilt cargo poses concerns for transferring invasive species or harmful pathogens, potentially from living organisms present in the cargo, or transported as the cargo. Invasive species of concern could be terrestrial species potentially transferred from port to port or marine species introduced through contamination of the cargo with seawater, a concern if the material is dumped at sea.

Mariners engaged in the transport of cargo that presents risks for transferring invasive species should include protective measures in their management plans.

Advice may be available from regulatory authorities in the importing country.

Treatment of animal carcasses

There may be circumstances where MARPOL Annex V will apply to the regulation and treatment of animal carcasses, and other circumstances in which the London Convention and Protocol may apply. The regulation and treatment of animal carcasses will therefore need to be managed on a case by-case basis and according to the particular circumstances and relevant guidelines.

The *2012 Guidelines for the Implementation of MARPOL Annex V* includes special guidance on the treatment of animal carcasses. The master of the ship is expected to have responsibility for shipboard livestock operational issues, animal health and welfare, and conditions for the control and reporting of animal mortality on board. Ships carrying live animal cargo consignments are expected to have animals that die during voyage. The mortality numbers are generally low

and are operational issues to be controlled as part of cargo management practice. These mortalities are considered to be generated during the normal operation of the ship and liable to be discharged of continually or periodically and therefore subject to Annex V regulations and Guidelines.

In the case of animal mortalities in excess of those generated during the normal operation of a ship, the animal carcasses are not garbage and may be considered as spoilt cargo and may be subject to the London Convention and Protocol when dumping at sea is being considered. To assist in managing these situations, masters should contact the flag State of the ship and, where appropriate, port and/or coastal State(s) to seek guidance on the appropriate legal regimes and requirements, as well as consult relevant IMO guidelines and circulars.

Alternative options when dumping at sea is not allowed

Where a dumping at sea permit would not be allowed for a type of spoilt cargo, plans should be made for offloading in port.

If no facilities are available within a port State, contingency plans should consider retention of the spoilt cargo on board and sailing to the nearest port with facilities for offloading either on a direct route or on the planned route for other cargo shipments. To manage costs, these plans should be developed in consultation with insurance organizations and cargo owners.

Additional information

For more information see: http://www.imo.org/blast/mainframemenu.asp?topic_id=1877

[1] See: http://www.imo.org/blast/mainframemenu.asp?topic_id=1877.

[2] For a simplified overview of the discharge provisions of the revised MARPOL Annex V, see: http://www.imo.org/OurWork/Environment/PollutionPrevention/Garbage/Documents/Annex%20V%20discharge%20requirements%2001-2013.pdf.

ANNEX 10

TERMS OF REFERENCE FOR THE INTERSESSIONAL CORRESPONDENCE GROUP ON MINE TAILINGS

The following paragraphs are tasks assigned to the Intersessional Correspondence Group on mine tailings:

- Jointly with the Secretariat, establish coordination and liaison with the GESAMP and UNIDO process in relation to the scientific scoping paper and the related workshop, and explore the need for and possible sources of funding for further work;

- Develop an inventory and understanding of the scope of the LC/LP and other international bodies;

- Gather information on best practices, existing guidance and other issues of marine and riverine disposal of mine tailings around the world; and

- Prepare and submit a progress report to the next joint session of the Scientific Groups to be held in New Orleans, United States, in May 2014 and a report to the 36th Consultative Meeting of the London Convention and the 9th Meeting of Contracting Parties to the London Protocol in November 2014, to provide the governing bodies with further information regarding the subject. This report should include recommendations for potential next steps.

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ANNEX 11

JOINT WORK PROGRAMME OF THE SCIENTIFIC GROUPS (2014-2016)

Description	2014	2015	2016	Target completion date
WASTE ASSESSMENT GUIDANCE				
- Guidance for the development of Action Lists and Action Levels for Annex 1 wastes – sewage sludge and possibly organic waste of natural origin	XX	XXX		2015
- Experience with practical implementation of the WAGs	XX	XX	XX	ONGOING
MONITORING AND ASSESSMENT				
- Assess compliance and field monitoring reports	XXX	XXX	XXX	ONGOING
- Develop guidance on low tech monitoring	XX	XX	XXX	2016
- Research results, new techniques, strategies, etc.	XX	XX	XX	ONGOING
- Contribution to the UN Regular Process	XX	X	X	ONGOING
CO_2 SEQUESTRATION				
- Keep under review the CO_2 Sequestration Guidelines (technical/scientific issues related to export/import of CO_2 streams)	X	X	X	ONGOING
- Experience with practical implementation of the CO_2 Sequestration Guidelines	XX	XX	XX	ONGOING
- Experience with CO_2 sequestration technologies and their application	XX	XX	XX	ONGOING
MARINE GEOENGINEERING				
- Ocean Fertilization – Document Repository	XX	XX	XX	ONGOING
- Review Procedure for listing new activities in new proposed annex 4, as appropriate	XXX	XX		2014
- Keep under review the marine environmental implications of marine geoengineering	X	X	X	ONGOING

Description	2014	2015	2016	Target completion date
TECHNICAL COOPERATION AND ASSISTANCE				
- Publication of the WAG TS Low-Tech Extension and implementation of a communications plan for this Extension	XXX	X		2014
- "Barriers to Compliance" project – Review of the Implementation Plan	XX	XX	XX	ONGOING
- Regional and National Workshops	XX	XX	XX	ONGOING
- Technical advice to specific countries	XX	XX	XX	ONGOING
- Development of a communication strategy for London Protocol Manual and implementation thereof	XX	X	X	2014
- Improvement/Update of the LC/LP Website	XX	XX	XX	ONGOING
HABITAT MODIFICATION/ENHANCEMENT				
- Beneficial use of waste or other materials	XX	XX	XX	ONGOING
- Experience with habitat enhancement	XX	XX	XX	ONGOING
REVIEW AND IMPROVEMENT OF REPORTING				
- Review of dumping reports	XXX	XXX	XXX	ONGOING
- Assess Trial of new Format	XX	XX	X	2015
- Review of reporting requirements	XXX	XXX		2015
- Database development including GISIS (building on work of the review of reporting requirements)	XX	X		2014
- Collaboration with other international bodies	XX	XX	XX	ONGOING

Description	2014	2015	2016	Target completion date
COASTAL MANAGEMENT AND PREVENTION OF MARINE POLLUTION				
- Cooperation with MEPC with regard to:				
.1 Ship hull scraping – the deposit of anti-fouling paint debris and fouling biota	XX	X		2014
.2 Keep spoilt cargoes management under review	X	X	X	ONGOING
- Cooperation with other UN Agencies and industry organizations, as appropriate, with regard to:				
.1 Discharge of mine wastes into coastal and oceanic waters	XXX	XX		2014
.2 Physical alteration/habitat destruction	XX	XX		2015
.3 Marine litter (LC-LP relevant issues only)	XX	XX		2015
.4 Risks of industrial wastes kept in storage near the coast			X	2016
- Underwater noise from anthropogenic sources (LC-LP-related issues only)	X	X	X	ONGOING
MATTERS RELATED TO RADIOACTIVE WASTES				
- Update the 2003 Guidelines for the application of *de minimis* concept	XXX	XX	XX	2015
SCIENCE/TECHNICAL SESSION: ISSUE FOCUSED DAY	XX	XX	XX	ONGOING
REVIEW OF WORK PROGRAMME				
Review Scientific Groups Work Programme	XX	XX	XX	Update annually
Contribute to the development of a Strategic Plan for the Convention and Protocol	XX	XX		2015

Legend: XXX high-priority item
XX medium-priority item
X low-priority item

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ANNEX 12

LIST OF SUBSTANTIVE ITEMS FOR THE 36TH CONSULTATIVE MEETING AND THE 9TH MEETING OF CONTRACTING PARTIES

1 Consideration of the report of the Scientific Groups

- Marine geoengineering including ocean fertilization
- Waste assessment guidance
- Monitoring and assessment
- CO_2 sequestration in sub-seabed geological formations
- Dumping reports/GISIS module and new Secretariat compilation report
- Technical cooperation and assistance
- Cooperation with the Compliance Group
- Habitat modification/enhancement
- Coastal management and prevention of marine pollution
- Matters related to the management of radioactive wastes
- New Science day topic
- Review of the Joint Work Programme and Strategic Plan

2 Compliance issues

- Report of the Compliance Group
- Reporting and findings of the correspondence group on dumping reporting
- Analyse and address difficulties experienced by Contracting Parties regarding reporting
- Dumping reports and formats
- Interaction with B2C Steering Group
- Compliance monitoring
- Additional guidance on implementation and reporting obligations

3 Development of the LC-LP Strategic Plan

4 Monitoring for the purposes of the London Convention and Protocol

- Cooperation with assessments by other organizations
- Examination of reports received under LP articles 9.4.2 and 9.4.3

5 Technical cooperation and assistance

- Removal of barriers to compliance project – implementation plan and progress
- Results of workshops – bilateral, national, regional
- Concrete technical advice, projects and activities

6 Marine geoengineering including ocean fertilization

7 CO_2 sequestration in sub-seabed geological formations

- Progress towards ratification of the 2009 LP amendment
- Export/import on vessels (flag issues)
- Experiences with CO_2 sequestration projects

8 Interpretation of the London Convention and Protocol

- Collaboration with MEPC on "boundary" issues
- Collaboration with United Nations bodies – riverine and sub-sea disposal of mine tailings
- Other issues (sewage sludge, bauxite residues)

9 Matters related to the management of radioactive wastes

- Stepwise Procedure in *de minimis* update

10 Outreach to prospective new Contracting Parties and relations with other organizations in the field of marine environmental protection

- Reports from Contracting Parties, IGOs, NGOs and the Bureau
- Reports on activities related to the London Convention and Protocol
- UNEP-GPA, UNEP Regional Seas Programme, IOI, IOC, FAO
- Update of LC/LP website and publications

11 Administrative arrangements and future work

- Report on the LC/LP Trust Fund and bi-annual report on the administration of the London Protocol
- Review of the Joint Work Programme