



THIRTY-SECOND CONSULTATIVE
MEETING OF CONTRACTING PARTIES TO
THE LONDON CONVENTION
&
FIFTH MEETING OF CONTRACTING
PARTIES TO THE LONDON PROTOCOL
11 – 15 October 2010
Agenda item 15

LC 32/15
9 November 2010
Original: ENGLISH

**REPORT OF THE THIRTY-SECOND CONSULTATIVE MEETING AND THE FIFTH
MEETING OF CONTRACTING PARTIES**

Table of Contents

Section	Paragraph Nos.	Page No.
0 EXECUTIVE SUMMARY	0.1 – 0.2	4
1 INTRODUCTION	1.1 – 1.15	9
2 STATUS OF THE LONDON CONVENTION AND PROTOCOL	2.1 – 2.8	12
3 CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUPS	3.1 – 3.8	13
4 OCEAN FERTILIZATION	4.1 – 4.38	14
5 CO ₂ SEQUESTRATION IN SUB-SEABED GEOLOGICAL FORMATIONS	5.1 – 5.8	23
6 COMPLIANCE ISSUES	6.1 – 6.32	25
7 TECHNICAL CO-OPERATION AND ASSISTANCE	7.1 – 7.24	30
8 INTERPRETATION OF THE LONDON CONVENTION AND PROTOCOL	8.1 – 8.20	34
9 MATTERS RELATED TO THE MANAGEMENT OF RADIOACTIVE WASTES	9.1 – 9.11	39
10 MONITORING FOR THE PURPOSES OF THE LONDON CONVENTION AND PROTOCOL	10.1 – 10.9	41

Section	Paragraph Nos.	Page No.
11 OUTREACH TO PROSPECTIVE NEW CONTRACTING PARTIES TO THE PROTOCOL AND RELATIONS WITH OTHER ORGANIZATIONS IN THE FIELD OF MARINE ENVIRONMENTAL PROTECTION	11.1 – 11.17	43
12 ADMINISTRATIVE ARRANGEMENTS AND FUTURE WORK	12.1 – 12.16	47
13 ANY OTHER BUSINESS	13.1 – 13.6	50
14 ELECTION OF OFFICERS FOR BOTH GOVERNING BODIES	14.1 – 14.2	51
15 CONSIDERATION AND ADOPTION OF THE REPORT	15.1	51

ANNEXES

ANNEX 1	AGENDA FOR THE 32 ND CONSULTATIVE MEETING AND THE 5 TH MEETING OF CONTRACTING PARTIES
ANNEX 2	REVISED SPECIFIC GUIDELINES FOR ASSESSMENT OF BULKY ITEMS
ANNEX 3	WORK ARRANGEMENTS FOR THE REVIEW OF THE "SPECIFIC GUIDELINES FOR ASSESSMENT OF DREDGED MATERIAL"
ANNEX 4	TERMS OF REFERENCE FOR THE CORRESPONDENCE GROUP TO REVIEW THE FRAMEWORK AND APPROACH TO ALL SPECIFIC GUIDELINES
ANNEX 5	RESOLUTION LC-LP.2(2010) ON THE ASSESSMENT FRAMEWORK FOR SCIENTIFIC RESEARCH INVOLVING OCEAN FERTILIZATION
ANNEX 6	ASSESSMENT FRAMEWORK FOR SCIENTIFIC RESEARCH INVOLVING OCEAN FERTILIZATION
ANNEX 7	TERMS OF REFERENCE FOR THE INTERSESSIONAL WORKING GROUP ON OCEAN FERTILIZATION
ANNEX 8	WORK PLAN FOR THE REVIEW OF THE 2007 CO ₂ SEQUESTRATION GUIDELINES
ANNEX 9	REPORT OF THE 3 RD MEETING OF THE COMPLIANCE GROUP UNDER THE LONDON PROTOCOL
ANNEX 10	FOLLOW-UP QUESTIONNAIRE FOR REGIONAL AND/OR NATIONAL WORKSHOPS ON THE PROMOTION OF THE LONDON PROTOCOL AND ON THE PREVENTION OF MARINE POLLUTION

- ANNEX 11 QUESTIONNAIRE ON CHARACTERISTICS OF SPOILT CARGO AND ITS DISPOSAL
- ANNEX 12 JOINT WORK PROGRAMME OF THE SCIENTIFIC GROUPS
(34TH, 35TH AND 36TH MEETINGS)
- ANNEX 13 LIST OF SUBSTANTIVE ITEMS FOR INCLUSION IN THE AGENDA FOR
THE 33RD CONSULTATIVE MEETING AND 6TH MEETING OF
CONTRACTING PARTIES

EXECUTIVE SUMMARY

0.1 Contracting Parties to the London Convention (LC) and the London Protocol (LP) met from 11 to 15 October 2010 at IMO Headquarters, London, for their 32nd Consultative Meeting and 5th Meeting of Contracting Parties, respectively.

0.2 The main results of these Meetings are described below:

- .1 **Membership:** The Meetings noted that to date **86** Governments had ratified or acceded to LC, and **38** to LP, with – so far – one Party (Ghana) acceding to it in 2010¹.
- .2 **Ocean fertilization:** The Meetings adopted resolution LC-LP.2(2010) on the "**Assessment Framework for Scientific Research Involving Ocean Fertilization**", which had been developed since May 2007 and as required under resolution LC-LP.1(2008). This Assessment Framework guides Parties as to how proposals they receive for ocean fertilization research should be assessed and provides criteria for an initial assessment of such proposals and detailed steps for completion of an environmental assessment, including risk management and monitoring.
- .3 The Meetings agreed that further work should be undertaken, intersessionally, by the Working Group on Ocean Fertilization (to be convened in June 2011 in Montreal, Canada), instructing it to consider proposals based on the option of an interpretative resolution (LP CO2 3/7, annex 5), the proposal of Canada (LC 32/4/1) and any other options, as appropriate. The Working Group should report to the next session of the governing bodies in 2011. It was also agreed that the overall aim of this work would be to "establish a global, transparent and effective control and regulatory mechanism for ocean fertilization activities and other activities that fall within the scope of LC and LP and have the potential to cause harm to the marine environment".
- .4 **CO₂ sequestration in sub-seabed geological formations:** The Meeting of Contracting Parties adopted a work plan with timelines to conduct the review of the 2007 CO₂ Sequestration Guidelines in light of the 2009 amendments to LP Article 6 under resolution LP.3(4) and instructed the LP Scientific Group to start with this review in 2011, aimed at its completion in 2012.
- .5 The **LP Compliance Group** met, for its 3rd session, from 11 to 13 October 2010 under the chairmanship of Ms. Anne Daniel (Canada) and noted that no reports of possible non-compliance had been referred to it. The Group continued its focus on several systemic issues of non-compliance based on extensive, intersessional work. The Group, *inter alia*, prepared a succinct overview of LP reporting and notification requirements that would provide States with a useful tool for optimizing their action in this regard, and reviewed current co-operative work being undertaken by the "Barriers to Compliance (B2C)" Project Steering Group and the Correspondence Group on the Assessment of Dumping Reports, aimed at strengthening the collective efforts to move towards full compliance with LP.

¹ Since the Meetings were held, Nigeria acceded to LP with effect from 31 October 2010.

- .6 The Meeting of Contracting Parties endorsed the Group's recommendations, including its future work programme for 2011 and agreed to convene the Group's fourth session in parallel with its next session, for reasons of efficiency and cost.
- .7 **Review of various technical guidelines:** The Meetings reviewed and adopted the "Revised Specific Guidelines for Assessment of Bulky Items", replacing the 2000 Guidelines on the same issue. The Meetings also endorsed arrangements and timelines of work to be undertaken by the Scientific Groups on the following technical guidelines:
 - .1 review of the "Specific Guidelines for Assessment of Dredged Material", adopted in 2000;
 - .2 preparation of guidance for the development of "Action Lists and Action Levels" for fish waste; and
 - .3 examination of the framework and approach to all nine "Specific Guidelines", to improve their effectiveness and application.
- .8 The Meetings reviewed the implementation of the 2004 LC/LP **Strategy to improve reporting** and:
 - .1 agreed to deal with the proposed revisions to the LC/LP Electronic Reporting Format as part of the larger revision of the reporting process being planned;
 - .2 endorsed the establishment of a Correspondence Group under the Scientific Groups, led by the United States, to start this review, intersessionally, and to report to the Scientific Groups in 2011;
 - .3 urged all Parties, if they have not done so, to provide the Secretariat with their annual reports, including NIL reports (indicating that no dumping activities were carried out in a particular year) as soon as possible;
 - .4 instructed the Secretariat (1) to publish the summary report on permits issued in 2007 in January 2011 following a final edit and after receipt of additional reports and corrections from Parties due by 31 December 2010 and (2) to submit a final draft compilation report for 2008 and a first draft compilation report for 2009 to the Correspondence Group on Assessment of Dumping Reports and, subsequently, the Scientific Groups for their review; and
 - .5 noted that the Secretariat would work with the IMO-IT Services to develop password protected, online entry, of dumping permits and amounts.
- .9 **Technical co-operation and assistance:** The Meetings reviewed the implementation and planning of various technical co-operation and assistance activities under the B2C-project, conducted in Turkey, and Workshops in the Philippines and Panama, and noted, with appreciation, the new contributions pledged by China (US\$10,000) and the United States

(US\$74,250) for LC/LP technical co-operation and assistance activities in 2011.

- .10 The Meetings also reviewed progress reports on several other technical co-operation and assistance projects being implemented, including: (1) an extension to the Waste Assessment Guidance Tutorial for low-technology techniques for assessing dredged material; and (2) the global inventory of dumping activities in the period 2000-2005, aimed at providing a better understanding of what is being dumped where, including, especially, reports outside of the LC/LP reporting system (see sub-item 8 above). Both these activities are due for completion in 2011. A follow-up evaluation questionnaire was approved for distribution to all Regional or National Workshop participants to see, six months after these events, how the information presented assisted them in achieving their programme goals.
- .11 The Meetings also endorsed the Scientific Groups' recommendation to discuss the issue of low reporting returns at *every* LC/LP Workshop being planned and involve "champions" in reporting with further efforts to collect data in their region, following the example set by Australia in the SPREP region.
- .12 The Meetings furthermore noted with appreciation the kind offers made by:
- .1 the Republic of Korea to host the 2012 session of the Scientific Groups in conjunction with a regional LC/LP Workshop for countries in the Asia-Pacific Region; and
 - .2 the United States to host the 2014 session of the Scientific Groups, possibly in combination with an LC/LP Workshop.
- .13 **Cooperation with MEPC: *Guidance on management of spoilt cargoes:*** The Meetings noted the approval by MEPC 61 of proposed amendments to MARPOL Annex V (Garbage from ships), due for formal adoption at the Committee's next session in July 2011. The Meetings agreed to work with the Committee to collect information on spoilt cargoes being discharged or dumped at sea, including information on the issue of how animal carcasses are dealt with in sea transport of livestock, in view of the proposed addition of discharge requirements covering the latter. A joint questionnaire would be sent both to LC/LP Parties and maritime administrations to assist in defining more clearly the boundary on this issue between the new MARPOL Annex V and LC/LP requirements. Consequently, it was agreed to postpone the further development of outreach material for spoilt cargo management until the revision of the Guidelines associated to the new MARPOL Annex V was completed.
- .14 **Cooperation with UNEP: *Riverine and Sub-sea Disposal of Tailings and Associated Wastes from Mining Operations:*** The Meetings, in reviewing progress on this issue, agreed to continue their efforts to determine the type and extent of this issue, as well as the associated environmental controls in place, due to the fact that only a limited number of replies had been received to the two questionnaires distributed in 2010. It was also agreed to develop a further questionnaire focusing on best management practices or guidelines used by those countries that have an active mining industry, but do not employ sub-sea/riverine tailings disposal or that had

discontinued such practices in recent years. The overall aim of this activity is still the preparation for a policy decision at a future session and possibly for the development, from a regulatory perspective, of a general guidance document.

- .15 The Meetings were informed of the progress with the "**Monitoring and Assessment Project in relation to sea disposal activities**", launched in October 2009. The objective of the project is to assess the experiences of Parties with implementation of the "Generic Guidelines" in relation to *field* monitoring activities. In discussing the report entitled "Review of reported field monitoring activities under LC and LP and development of an LC/LP monitoring database", the Meetings noted that this thorough report and the conclusions and recommendations it contained merited careful consideration in the future.
- .16 The Meetings also noted that the findings of both the Scientific Groups and the LP Compliance Group on this report pointed in the same direction and, essentially, addressed the reporting deficiencies both under LC and LP. The Meetings accepted these findings in general and, *inter alia*, reaffirmed that LP Article 9.4.1 created a clear mandatory obligation to report on monitoring as per LP Article 9.1.3. Furthermore, it was agreed to give first priority to the development of a clear, concise and simplified field monitoring reporting format, taking the revised Generic Guidelines (2008) as the point of departure.
- .17 The Meetings discussed several "**outreach**" **activities to raise the LP profile** and appreciated the planning of the following publications:
- .1 a "How to do it Manual", for LP aimed for completion in 2012;
 - .2 an overview of the LC/LP materials, prepared since 2006, on CO₂ sequestration in subsea-bed geological formations, aimed for completion in 2012; and
 - .3 an updated multi-lingual publication containing the LC/LP texts, aimed for completion in 2011.
- .18 The Meetings were informed that a new version of the IMO website was being introduced in 2010, and that, as a consequence the LC/LP pages would undergo a facelift and be accessible at the following new address: www.londonprotocol.imo.org. A further change was that all IMO documents would be made available without the use of passwords and that the Secretariat would, therefore, no longer be placing LC/LP documents on the LC/LP pages.
- .19 **Administrative arrangements:** The Meetings noted an overview by the Secretariat of both the IMO budget for the administration of LP in the period 2010 to 2011 and the actual costs for 2008 and 2009. Such an overview is required, every two years, pursuant to LP Article 19.2.6. Having reviewed an update of the 2008 analysis linking the activities in the LC/LP Joint Long-term Programme (JLTP) for the period from 2010 to 2012 with possible budgetary implications, the Meeting of Contracting Parties concluded that it had no specific requests to IMO to perform additional functions or duties for the administration of LP and thanked IMO for the

continued support it provides in this respect. The JLTP itself, outlining the tasks and activities undertaken by Parties at their meetings, was reviewed and the Secretariat was instructed to distribute it, updated in light of the achievements at this session for the period 2011 to 2013, in all three working languages.

- .20 The Meetings agreed that:
- .1 the **34th session of the LC Scientific Group** and the **5th session of the LP Scientific Group** should be held, concurrently, in London, **from 11 to 15 April 2011**;
 - .2 the intersessional meeting of the **Working Group on Ocean Fertilization** should be held in Montreal, Canada, in the **first half of June 2011²**;
 - .3 the **33rd Consultative Meeting** and the **6th Meeting of Contracting Parties** should be held, concurrently, in London, **from 17 to 21 October 2011**; and
 - .4 the **4th meeting of the LP Compliance Group** should be held, in London, **from 17 to 19 October 2011**.
- .21 The Consultative Meeting unanimously **re-elected** Ms. Chen Yue (China) as Chairman and **elected** Mr. Tara Ross-Watt (New Zealand) and Mr. Ali Akbar Marzban (Islamic Republic of Iran) as 1st and 2nd Vice-Chairman, respectively, for the intersessional period and for the 33rd Consultative Meeting. The Meeting of Contracting Parties also unanimously (re-)elected the same officers for the intersessional period and for the 6th Meeting of Contracting Parties.

² Dates are yet to be confirmed.

1 INTRODUCTION

1.1 The 32nd 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 5th 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, were concurrently held at the Headquarters of the International Maritime Organization, London, from 11 to 15 October 2010, under the chairmanship of Ms. Chen Yue (China). Mr. Matthew Johnston (Australia) was First Vice-Chairman.

1.2 The Consultative Meeting was attended by delegations from the following 39 Contracting Parties to the London Convention:

ARGENTINA	MONACO
AUSTRALIA	MONTENEGRO
AZERBAIJAN	MOROCCO
BOLIVIA (PLURINATIONAL STATE OF)	NETHERLANDS
BRAZIL	NEW ZEALAND
CANADA	NIGERIA
CHILE	NORWAY
CHINA	PANAMA
CÔTE D'IVOIRE	PAPUA NEW GUINEA
CYPRUS	PERU
DENMARK	PHILIPPINES
DOMINICAN REPUBLIC	POLAND
EGYPT	REPUBLIC OF KOREA
FRANCE	SOUTH AFRICA
GERMANY	SPAIN
IRAN (ISLAMIC REPUBLIC OF)	SWEDEN
JAPAN	UKRAINE
KENYA	UNITED KINGDOM
MEXICO	UNITED STATES
	VANUATU

1.3 The Meeting of Contracting Parties was attended by delegations from the following 24 Contracting Parties to the London Protocol:

ANGOLA	MARSHALL ISLANDS
AUSTRALIA	MEXICO
CANADA	NETHERLANDS
CHINA	NEW ZEALAND
DENMARK	NORWAY
EGYPT	REPUBLIC OF KOREA
FRANCE	SAUDI ARABIA
GERMANY	SOUTH AFRICA
GHANA	SPAIN
IRELAND	SWEDEN
JAPAN	UNITED KINGDOM
KENYA	VANUATU

1.4 A representative from the following Associate Member of IMO attended the Meetings:

HONG KONG, CHINA

1.5 Observers from the following six States that are neither Contracting Parties to the London Convention nor to the London Protocol attended the Meetings:

BAHAMAS	THAILAND
ECUADOR	TURKEY
LIBERIA	URUGUAY

1.6 Observers from the following five international non-governmental organizations also attended the Meetings:

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)
GREENPEACE INTERNATIONAL
INTERNATIONAL CHAMBER OF SHIPPING (ICS)
WORLD ORGANIZATION OF DREDGING ASSOCIATIONS (WODA)

OPENING OF THE MEETINGS

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

THE SECRETARY-GENERAL'S OPENING ADDRESS

1.8 On behalf of the Secretary-General of IMO, Mr. E.E. Mitropoulos, the Director of the Marine Environment Division, Mr. Miguel Palomares, welcomed participants and delivered his opening address. The full text of the opening address is shown in document LC 32/INF.5.

CHAIRMAN'S REMARKS

1.9 Ms. Chen thanked Mr. Palomares for his words of welcome, his advice on IMO's activities and expectations and the reassurance of the support IMO would continue to give to work being undertaken under the London Convention and Protocol.

ADOPTION OF THE AGENDA

1.10 The agenda for the Consultative Meeting and the Meeting of Contracting Parties (LC 32/1), as adopted, is shown in annex 1. It includes under each agenda item a list of documents prepared for consideration. Both governing bodies also agreed on a timetable for their work (LC 32/1/1, annex 2).

PARTICIPATION OF INTERGOVERNMENTAL ORGANIZATIONS AND INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS

1.11 The Secretariat informed the Meetings that no application for observer status had been received in the intersessional period.

ACTION BY THE GOVERNING BODIES

1.12 Both governing bodies agreed to invite United Nations organizations and intergovernmental organizations to the 33rd Consultative Meeting and the 6th Meeting of Contracting Parties and to intersessional meetings of their respective subsidiary bodies, as follows:

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

1.13 The governing bodies noted that the past year had been an exceptional one, in particular due to the cancellation of the joint session of the Scientific Groups planned in April 2010, so that the basis on which to judge the commitment or contributions of any NGO to the proceedings was much reduced.

1.14 Therefore, both governing bodies at the conclusion of their sessions decided that the following 13 international non-governmental organizations should be invited to the 33rd Consultative Meeting and the 6th Meeting of Contracting Parties and to intersessional meetings of their respective subsidiary bodies:

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

1.15 The governing bodies agreed to continue the invitation to IETA, on a provisional basis, until their next session and to reconsider the status of IETA at that session based on a report outlining the added value that IETA brings to these proceedings.

2 STATUS OF THE LONDON CONVENTION AND PROTOCOL

THE LONDON CONVENTION 1972 (LONDON CONVENTION)

2.1 The governing bodies noted the report by the Secretary-General (LC 32/2) on the status of the London Convention and that, to date, **86** Governments had ratified or acceded to the Convention, representing no changes compared with last year. Annex 2 of the report lists the 20 Contracting Parties that have accepted the 1978 amendments on the settlement of disputes. This list had not grown since 1996, the year in which the London Protocol was 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 governing bodies also noted the report by the Secretary-General (LC 32/2/1) on the status of the London Protocol and that the following **38³** States had ratified or acceded to it: Angola, Australia, Barbados, Belgium, Bulgaria, Canada, China, Denmark, Egypt, France, Georgia, Germany, Ghana, Iceland, Ireland, Italy, Japan, Kenya, Luxembourg, Marshall Islands, Mexico, Netherlands, New Zealand, Norway, Republic of Korea, Saudi Arabia, Sierra Leone, Slovenia, South Africa, Spain, St. Kitts and Nevis, Suriname, Sweden, Switzerland, Tonga, Trinidad and Tobago, United Kingdom and Vanuatu. Seven of these States (Angola, Georgia, Ghana, Marshall Islands, Saudi Arabia, St. Kitts and Nevis, and Trinidad and Tobago) were not Contracting Parties to the London Convention. The governing bodies also noted that five of the 18 Contracting Parties to the Convention which were signatories to the London Protocol had not yet ratified it (Argentina, Brazil, Finland, Morocco and United States).

2.3 The governing bodies further noted, with appreciation, that **Ghana** had joined the Protocol since the 4th Meeting of Contracting Parties was held in 2009. Both the documents LC 32/2 and LC 32/2/1 no longer contained an overview of any declarations and reservations which Parties had registered with IMO. The Secretariat could be contacted to obtain such an overview.

2.4 It was noted that the pace of accessions/ratifications of the Protocol had slowed down compared with peaks in the period from 1999 to 2001 and from 2006 to 2008.

<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
<i>1</i>	<i>3</i>	<i>3</i>	<i>6</i>	<i>3</i>	<i>NIL</i>	<i>2</i>	<i>3</i>

<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>1</i>	<i>8</i>	<i>2</i>	<i>4</i>	<i>1</i>	<i>1</i>

2.5 The delegations from Argentina, Brazil, Ecuador and the United States reported on their progress towards joining the London Protocol, without giving indications when this process might be completed.

2.6 The delegation of Uruguay stated that, following the successful Regional Workshop on the London Convention and Protocol, which Uruguay hosted in co-operation with ROCRAM from 28 September to 2 October 2009 in Montevideo, it had continued the process to accede to the London Protocol.

³ Nigeria acceded to the London Protocol with effect from 31 October 2010.

2.7 The delegation of the Philippines informed the Meetings that accession to the London Protocol had become a priority and that, as a result of the successful National Workshop on the London Protocol held in Manila (Philippines) in February 2010, very few barriers remained towards accession (LC 32/7). It would now be a matter for the Government to take the final decision, possibly in the course of 2011.

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. Chris Vivian, informed the Meetings of the main points of the Extraordinary Session of the Scientific Groups which was held, on 7 and 8 October 2010, in London, United Kingdom (LC 32/WP.1). The Meetings noted that delegations from 18 Parties to the London Convention and 14 Parties to the London Protocol (*shown in Italics*) attended the Meetings: Argentina, *Australia*, *Canada*, *China*, *France*, *Germany*, *Ireland*, *Japan*, *Netherlands*, *New Zealand*, Nigeria, Norway, Peru, *Republic of Korea*, *South Africa*, *Spain*, *United Kingdom* and United States. Observers from Iraq, UNEP, Greenpeace International, IUCN and WODA were also in attendance.

REVISED SPECIFIC GUIDELINES FOR ASSESSMENT OF BULKY ITEMS

3.2 The delegation of China introduced the draft revised Specific Guidelines for assessment of Bulky Items and highlighted that the Scientific Groups had completed the review as shown in document LC 32/WP.1, annex 2, and had agreed to forward them to this session, with a view to adoption. The revised text was the culmination of work carried out since 2007. The delegation thanked all members of the Correspondence Group that had provided valuable comments and suggestions, including Australia, Canada, China, Germany, New Zealand, Republic of Korea, Small Island States in the Pacific Region (through SPREP), United Kingdom, United States and Greenpeace International.

3.3 The observer from Greenpeace International noted that the revised text was an improvement to the existing Guidelines and now excluded the use of waste materials that might otherwise have been allowed under the current Guidelines. The same observer stressed the ongoing need to ensure, nonetheless, that consideration of dumping as an option for bulky wastes is strictly limited to circumstances in which such wastes are generated at locations such as small islands with isolated communities, having no practicable access to disposal options other than dumping. This issue might need to be reviewed in the future.

ACTION BY THE GOVERNING BODIES

3.4 In conclusion, the governing bodies, having noted that the Scientific Groups had approved the revised Specific Guidelines for Assessment of Bulky Items, adopted it, as amended, and as shown in annex 2 to this report. The Secretariat was instructed to circulate the revised text and also post it on the London Convention and Protocol website.

3.5 The Meetings thanked Mr. Chuanlin Huo (China) and all delegations who had contributed to this review.

ONGOING WORK

3.6 With regard to several new and ongoing matters of work being undertaken by the Scientific Groups, the Meetings noted:

- .1 the Groups' discussion on work to review the Specific Guidelines for Assessment of Dredged Material and endorsed the establishment of an intersessional Correspondence Group, under the lead of the United States⁴, and endorsed the proposed work arrangements, as shown in annex 3 to this report and the Groups' intention to continue working on this issue at their next session in 2011 aimed for completion in 2012 (LC 32/WP.1, paragraphs 3.11.1 and 3.11.2);
- .2 the Groups' discussion on the development of Guidance for the development of Action Lists and Action Levels for fish waste and endorsed the agreement by the Groups to re-establish the intersessional Correspondence Group under the lead of Canada⁵; and encouraged Contracting Parties to provide Canada with experiences in managing fish waste (LC 32/WP.1, paragraphs 3.13.1 to 3.13.3); and
- .3 the Groups' discussion on the examination of the framework and approach to all "Specific Guidelines" and endorsed the establishment of an intersessional Correspondence Group, under the lead of Australia⁶, to prepare for this examination, with its terms of reference as shown in annex 4 to this report and the Groups' intention to continue working on this issue at their next session in 2011, on the basis of the report of the Correspondence Group (LC 32/WP.1, paragraphs 3.15.1 and 3.15.2).

ACTION BY THE GOVERNING BODIES

3.7 **The governing bodies adopted the report of the Extraordinary Session of the LC and LP Scientific Groups (LC 32/WP.1).**

3.8 The governing bodies noted, with appreciation, that both Scientific Groups had re-elected Dr. Chris Vivian (United Kingdom) as Chairman, and Dr. Gi-Hoon Hong (Republic of Korea) and Ms. Linda Porebski (Canada) as 1st Vice-Chairman and 2nd Vice-Chairman, respectively, for the intersessional period and for the next joint session of the Scientific Groups in 2011.

4 OCEAN FERTILIZATION**REVIEW OF THE SCIENTIFIC GROUPS' WORK REGARDING OCEAN FERTILIZATION**

4.1 The Meetings noted that the Scientific Groups, at their extraordinary session in October 2010, had completed the review of the draft "Assessment Framework for Scientific Research Involving Ocean Fertilization" (the Framework) (LC 32/WP.1, annex 1), based on the intersessional work of the Ocean Fertilization Correspondence Group, under the lead of Dr. Gi-Hoon Hong (Republic of Korea).

⁴ Dr. Todd Bridges can be contacted at: Todd.S.Bridges@erdc.usace.army.mil

⁵ Mr. David Taillefer can be contacted at: David.Taillefer@ec.gc.ca

⁶ Mr. Matt Johnston can be contacted at: Matthew.Johnston@environment.gov.au

4.2 Although the Groups recommended the adoption of the Framework, as a living document, the two following issues had yet to be resolved:

- .1 there was no agreement on the issue whether the phrase: "prior informed consent must be obtained from all Parties with jurisdiction in the Region of Potential Impact" should be included in the Framework. Some expressed the view that in case a "prior informed consent" phrase would be included, the word "must" would have to be replaced with "should"; and
- .2 the delegation of Japan expressed the view that the Scientific Groups should develop standards or guidelines for the setting of "thresholds" for use of the Framework to avoid that Contracting Parties would establish such thresholds, individually, which could undermine the efficacy of the Framework.

DISCUSSION IN PLENARY

4.3 All delegations that spoke indicated to be prepared to adopt the Framework at this session, provided that the following issues were resolved:

- .1 due to the short time between the session of the Scientific Groups and this session a few errors were still in the text of the proposed Framework that needed correction;
- .2 it would furthermore be wise to carefully review the text from a policy perspective at this session, before its final adoption;
- .3 one delegation wished to define more explicitly in paragraph 2.2.2 the "economic interests" involved in ocean fertilization as an element of the "Initial Assessment" chapter of the Framework. Other delegations preferred to keep the generic reference to "economic interests" as no agreement had been reached on an exhaustive list of what these interests were. However, it was generally agreed that amongst other things, economic benefits included both the various carbon instruments and fisheries enhancements;
- .4 a proposal by Germany for new language to resolve the issue of "prior informed consent" as an element for the "Decision Making" chapter of the Framework needed careful consideration;
- .5 a paragraph would need to be included in the "Introduction and Summary" chapter of the Framework, on the issue of which Contracting Party should lead an application of the Framework when several Contracting Parties would be involved in ocean fertilization experiments; and
- .6 the issue of liability and compensation in relation to ocean fertilization experiments had not yet been addressed in the Framework, as this issue fell outside the remit of the Scientific Groups.

4.4 In response to a preference expressed by some delegations to prohibit ocean fertilization as an activity, including research experiments, the following observations were noted:

- .1 nearly all ocean fertilization experiments conducted, to date, were not designed to examine the CO₂ drawdown concept but to study the fertilization process for purely scientific purposes;
- .2 no single ocean fertilization experiment would provide definitive results in proving or disproving the CO₂ drawdown concept; and
- .3 it was important to bear in mind that experiments to study ocean fertilization are likely to be considered necessary in order to gain an improved understanding of ocean biogeochemistry.

4.5 The governing bodies established a drafting group under the lead of the Chairman of the Scientific Groups to address the issues mentioned in paragraphs 4.2 and 4.3 above.

REPORT OF THE ASSESSMENT FRAMEWORK DRAFTING GROUP

4.6 The Assessment Framework Drafting Group met under the leadership of Dr. Chris Vivian (United Kingdom) on 12 and 13 October 2010 (LC 32/WP.4) with delegations from Angola, Argentina, Australia, Canada, Denmark, Germany, Japan, Marshall Islands, Netherlands, New Zealand, Norway, Republic of Korea, Spain, Sweden, United States, Vanuatu, Greenpeace International and IUCN in attendance.

4.7 The Drafting Group discussed outstanding issues listed in paragraphs 4.2 and 4.3 above and other issues raised in plenary concerning the text of LC 32/WP.1, annex 1. These issues were resolved and the draft Framework was amended accordingly. The Group noted that some final formatting of the document may be required by the Secretariat.

4.8 To resolve the issue of including a threshold for exempting experiments from assessments, the Group developed the following language to counterbalance the statement by the delegation of Japan, as mentioned in paragraph 4.2.2 above:

"The Framework does not contain a threshold below which experiments would be exempt from its assessment provisions. It is intended that every experiment, regardless of size or scale, should be assessed in accordance with the entire Framework. However, paragraph 1.5 in the Framework acknowledges that information requirements will vary according to the nature of each experiment. Therefore, it would be inconsistent with the Framework and resolution LC-LP.1(2008) for Contracting Parties to establish their own national thresholds to exempt some experiments from the Framework at this time."

4.9 In the discussion of the report of the Drafting Group it was clarified that the sentence in paragraph 3.6.5 of the "Risk Management" chapter of the Framework: "*Issues related to liability should be considered as appropriate*" had been deleted and replaced by the following generic reference in footnote 3 of the "Introduction and Summary" chapter of the Framework to UNCLOS, implying, *inter alia*, that UNCLOS Article 235 (Responsibility and liability) would apply to the Framework:

"This Framework is to be interpreted and applied in conformity with the relevant rules of international law, including as reflected in the United Nations Convention on the Law of the Sea 1982 (UNCLOS). Nothing in this Framework prejudices the rights, jurisdiction and duties of States under international law including as reflected in UNCLOS."

ACTION BY THE GOVERNING BODIES

4.10 The governing bodies:

- .1 approved the "Assessment Framework for Scientific Research Involving Ocean Fertilization", as a living document, subject to a further decision on regulation of ocean fertilization at this session (see paragraph 4.27 below); and**
- .2 noted that this Framework might need to be amended in light of that decision; and**
- .3 expressed their appreciation to Dr. Gi-Hoon Hong (Republic of Korea) and the members of the many correspondence and working groups which had developed the Framework after incredibly hard work starting in Guayaquil, Ecuador, in May 2007.**

FURTHER ACTION REGARDING REGULATION OF OCEAN FERTILIZATION

4.11 It was recalled that when the governing bodies adopted, in 2008, resolution LC-LP.1 (2008) on the regulation of ocean fertilization, they also agreed to further consider a potential legally binding resolution or an amendment to the London Protocol on ocean fertilization (LC 30/16, paragraph 4.14). Eight options were developed, intersessionally, in 2009 (LP CO2 2/5) but the governing bodies had had little time last year to discuss these options at length, together with a new amendment proposal by Australia and New Zealand (LC 31/4/1). Instead, it was agreed to establish the LP Intersessional Working Group on Ocean Fertilization with as terms of reference to "focus on deepening the understanding of the implications of legally binding options to enable the informed consideration and discussion on this issue by the governing bodies in 2010", and to examine each option using a list of agreed criteria and taking into account various relevant documents (LP CO2 3/7, paragraph 1.7).

4.12 The Chairman of the LP Intersessional Working Group on Ocean Fertilization, Mrs. Wini Broadbelt (Netherlands), introduced the report of its second session held at IMO Headquarters in March 2010 (LP CO2 3/7). The Working Group had examined each of the *legally binding* options according to the criteria given in the terms of reference and any additional options or criteria received, intersessionally.

4.13 This work had resulted in the following 9 options:

- | | |
|------------------------|--|
| Option 1 | Statement of concern ⁷ ; |
| Option 2 | Simple resolution ⁸ ; |
| Option 3 | Simple resolution intending to build upon resolution LC-LP.1(2008). This option applies both to LC and LP; |
| Option 4 | Interpretative resolution. This option applies both to LC and LP; |
| Option 5 | An amendment to LP Annex 1; |
| Option 5(<i>bis</i>) | An amendment to LP Annex 1, as proposed by Australia and New Zealand (LP CO2 3/3/1); |
| Option 6 | Amendments to LP Annex 1 and the definition of dumping; |

⁷ The text of this option is identical to the "Statement of Concern" prepared by the Scientific Groups in 2007 and endorsed by the governing bodies (LC 29/17, paragraph 4.23).

⁸ The text of this option is identical to resolution LC-LP.1(2008).

- | | |
|----------|--|
| Option 7 | Amendments to the LP definition of dumping and exclusions for dumping; and |
| Option 8 | A new, stand-alone LP article on ocean fertilization |

4.14 The texts of these options, shown in annexes 2 to 9 to the report of the Group, were developed using a standard format and offered a deeper level of analysis compared with the outcome of the Group's first session in 2009. Furthermore, the Working Group had identified, in its effort to draw attention to areas that require further development, several "overarching" issues that apply to all legally binding options and may require consideration by the governing bodies before reaching a decision.

4.15 The Meetings noted that the Working Group had been unable to discuss in depth the *non-legally binding* options because of lack of time, as well as the Group's acknowledgment that these options remained open for the consideration of the governing bodies.

4.16 The Meetings also noted the Group's agreement that further examination of giving legally binding effect to the prohibition of ocean fertilization other than legitimate scientific research under the London Convention by way of an interpretative resolution may be required.

4.17 In introducing its document LC 32/4/1, the delegation of Canada indicated that although Canada, was still considering the various options and retains the view that an interpretative resolution to strengthen the voluntary resolution adopted in 2008 (LC-LP.1(2008)) may be sufficient, it offered, nonetheless a new option for discussion. It involved a Protocol amendment to create a permitting authority for a limited category of placement (namely, a new type of permit for legitimate scientific research involving ocean fertilization). The proposal could expand the scope of the Protocol to include ocean fertilization as defined in the 2008 resolution (LC-LP.1 (2008)), without changing the definition of "dumping". The option could provide a binding control mechanism for ocean fertilization that could easily be adapted to other types of marine geo-engineering activities in the future, and avoided undermining or complicating the current distinction between dumping and placement activities. Canada, in its desire to work towards a transparent global regulation, was open for a two-step approach, e.g., accepting an interpretative resolution to cover the time until the amendment would enter into force, as well as involve the LC Parties in the decision, as the amendment proposed by Canada was obviously only directed to the LP Parties. If this approach would be supported, substantial work would still be necessary to develop the text of the amendment itself as the document had only offered a structured "example" of an amendment.

DISCUSSION IN PLENARY

4.18 In discussing both the report of the Working Group and the Canadian proposal the following points were raised:

- .1 the advantages and disadvantages of the various options were much clearer as a result of the work of the Working Group in March 2010;
- .2 many delegations thanked Canada for its ground-breaking proposal opening a new route to regulation. The proposal offered greater transparency, addressed most of the "overarching" issues identified in the report of the Working Group and merited further in-depth discussion;

- .3 a two-step approach offering a short-term regulation aimed, primarily, at the London Convention and a long-term regulation aimed at amending the London Protocol would need to be further explored;
- .4 completion of the Framework was a vital element of any decision reached. Some delegations preferred gaining experience first with the Framework's application in combination with resolution LC-LP.1(2008);
- .5 the non-legally binding options had not yet been examined with the same rigour as the legally binding options on the table; and
- .6 whatever option or combination of options was chosen in the end, it should preferably have the same clarity as resolution LC-LP.1(2008) offered;
- .7 some delegations expressed the concern at accepting a permissive regulation of ocean fertilization research in perpetuity and preferred instead permission of such research on a trial basis only; and
- .8 Options 1 and 2 should no longer be viewed as "decision" options, but served as the basis for any future decision to be agreed. Options 6 and 7 could be deleted as these involved a re-definition of "dumping", thereby breaking the link with that definition under Article 1.1.(5) of UNCLOS.

4.19 The Meetings agreed to establish a drafting group, under the lead of the Netherlands, which was instructed to:

- .1 **mainly elaborate the text of the following draft resolutions and amendments in light of the comments received in plenary:**
 - .1 **Options 2, 3, and 4, building on work agreed in 2009 and 2010 (LP CO2 3/7); and**
 - .2 **the proposal by Canada (LC 32/4/1);**
- .2 **identify what further work is needed, intersessionally, aimed at consideration in 2011, with a view to a final selection and formal adoption of a decision to regulate ocean fertilization.**

REPORT OF THE DRAFTING GROUP ON OCEAN FERTILIZATION

4.20 The Drafting Group on Ocean Fertilization was convened from 11 to 13 October 2010, under the chairmanship of Mrs. Wini Broadbelt (Netherlands) (LC 32/WP.3).

4.21 Delegations from 17 Parties to the London Convention and 15 Parties to the London Protocol (*shown in Italics*) attended the Drafting Group: Argentina, *Australia, Canada, China, Denmark, France, Germany, Japan, Netherlands, Norway, New Zealand, Republic of Korea, South Africa, Spain, Sweden, United Kingdom* and United States. Observers from Greenpeace International and IUCN were also in attendance.

4.22 The Drafting Group conducted a preliminary discussion on the options identified in the plenary and agreed to focus on Options 3 and 4 based on resolution LC-LP.1(2008).

4.23 In considering the "points to note" regarding Option 3 (Simple resolution) the Group agreed to use the results of the above discussion as a basis for developing the draft resolution as shown in the annex to document LC 32/WP.3.

4.24 The same approach of discussing the "points to note" was used regarding Option 4 (Interpretative resolution). During the discussions, some delegations were of the view that all Parties would need to agree to the adoption of an interpretative resolution, including Parties not present at the particular meeting. However, other delegations were of the view that not all Parties would need to agree for an interpretative resolution to be adopted and, if it did not gain unanimous support, an interpretative resolution would only be considered a subsequent agreement as provided under Article 31.3(a) of the Vienna Convention on the Law of Treaties among those Parties who had agreed to it. It was also noted that the content of any interpretative resolution would require careful consideration.

4.25 With regard to the proposal by Canada in document LC 32/4/1, the Group held a general discussion on the merits and content of the proposal. The majority of the delegations welcomed the proposal as a good starting point for a legally binding solution to regulate placement activities that have the potential to cause harm to the marine environment, including the activities related to ocean fertilization. Other delegations pointed out the potential difficulties of moving forward with the Canadian proposal and suggested a "wait and see" approach, rather than a legally binding approach.

4.26 The Group agreed that the adoption of the proposed resolution would be a further step in regulating ocean fertilization and considered this to be a partial response to the second part of its terms of reference (see paragraph 4.19.2 above). The Group also agreed that further work should be undertaken, intersessionally, 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 Protocol and have the potential to cause harm to the marine environment. This intersessional work should be based on the option of an interpretative resolution, the proposal from Canada and any other options, as appropriate.

ACTION BY THE GOVERNING BODIES

4.27 **Based on the report of the Drafting Group and the discussions in plenary, the governing bodies:**

- .1 approved the report of the Drafting Group in general (LC 32/WP.3);**
- .2 adopted, with minor amendments, resolution LC-LP.2(2010) "on the Assessment Framework for Scientific Research Involving Ocean Fertilization". The text of the resolution is shown in annex 5 to this report;**
- .3 adopted, the "Assessment Framework for Scientific Research Involving Ocean Fertilization", which was approved earlier (see paragraph 4.10 above). The full text of the Framework is shown in annex 6 to this report;**
- .4 agreed to establish the "Intersessional Working Group on Ocean Fertilization" with the terms of reference and work arrangements, as shown in annex 7 to this report;**

- .5 accepted with appreciation the kind offer by Canada to host the meeting of the Intersessional Working Group in Montreal, Canada, in June 2011⁹; and**
- .6 requested the Secretariat to inform forthwith the 10th meeting of the Contracting Parties to the Convention on Biological Diversity that would be convened in Nagoya, Japan, from 18 to 29 October 2010¹⁰.**

4.28 The governing bodies expressed their appreciation for the hard work done on this issue, intersessionally, and at this session with dedicated input received from many delegations and in particular to: Mrs. Wini Broadbelt (Netherlands); Mrs. Celeste Powell (Australia); and Dr. Chris Vivian (United Kingdom).

DISCUSSION OF SCIENCE OVERVIEWS ON OCEAN FERTILIZATION

4.29 It was recalled that the governing bodies were informed in 2009 of the progress which the Scientific Groups had made with regard to the development of "Science Overviews on Ocean Fertilization". They had agreed that the Scientific Groups' terms of reference on this issue were still valid and that, therefore, the Groups should finalize the document summarizing the current state of knowledge on ocean fertilization based on the instructions given (LC 31/15, paragraphs 4.5 to 4.13).

4.30 The Meetings were informed that the Scientific Groups, at their extraordinary session, had considered the report by the Chairman of the Ocean Fertilization Correspondence Group concerning the development of these Science Overviews (LC/SG/ES.2/1), discussing, mainly, the draft "UNESCO-IOC Summary for Policy Makers on Ocean Fertilization" and other relevant documents.

ACTION BY THE GOVERNING BODIES

4.31 The governing bodies:

- .1 endorsed the Scientific Groups' recommendation that the Correspondence Group on Ocean Fertilization should continue its work, intersessionally, on the Science Overviews and, in particular: (1) discuss the suitability of both the CBD and UNESCO-IOC overviews for purposes of the London Convention and Protocol; (2) collate the views of Contracting Parties on this issue; (3) identify gaps in these overviews; and (4) make final recommendations on how these gaps could be filled; and**
- .2 agreed that the Scientific Groups should continue working on this issue at their next session in 2011, on the basis of the report of the Correspondence Group (LC 32/WP.1, paragraphs 3.4.2 and 3.4.3).**

⁹ The exact dates have yet to be confirmed.

¹⁰ Resolutions LC-LP.1(2008), LC-LP.2(2010) together with the Framework were sent to the CBD-Secretariat on Friday, 15 October 2010 for the information of COP 10.

EXPLORATION OF MARINE GEO-ENGINEERING ACTIVITIES

4.32 It was recalled that, in 2009, the governing bodies agreed that an exploration of marine geo-engineering and their possible impacts on the marine environment was regarded as desirable and should be planned in the future. An initial explanation of what is regarded as marine geo-engineering had been given at that session (LC 31/15, paragraphs 4.17 to 4.20).

4.33 The Chairman of the Scientific Groups informed the Meetings that document LC 32/4 set out a brief summary of the marine geo-engineering schemes that have been proposed to date together with pointers to more detailed sources of information. There are a variety of novel activities that could be carried out in the ocean for a range of purposes, potentially at quite significant scales. Since they all depended on modifying the ocean in some way to have their desired effect, they all had the potential to have effects on ocean ecosystems. The question was, should these challenges be addressed piecemeal or should there be a more integrated and comprehensive approach to these proposals for deliberate ocean modification, whatever the rationale behind them, in order to ensure the protection of our oceans?

4.34 The Chairman of the Scientific Groups also informed the Meetings of the outcome of the Conference on Climate Intervention Technologies which he had attended at the Asilomar Conference Centre in Pacific Grove, California (United States) from 22 to 26 March 2010 (LC 32/INF.4). The Conference was developed to allow those interested in climate intervention to propose norms and guidelines for experimentation on climate engineering or intervention techniques. The focus of the Conference was exclusively on development of risk reduction guidelines for climate intervention experiments – not research itself, not prioritizing approaches, and not development of research plans. A valuable and interesting insight was gained into a wide variety of geo-engineering proposals and climate science as well as a wider appreciation of many other issues that are raised by geo-engineering. It should be noted that many delegates at the Conference did not think that the term "geo-engineering" was very useful and by the end of the Conference it was generally being replaced by reference to "*climate intervention methods*" (solar radiation management) and "*climate remediation methods*" (carbon dioxide removal). The Meetings noted that further information on the Conference could be obtained from:

<http://climate.org/resources/climate-archives/conferences/asilomar.html>
http://www.climateactionfund.org/index.php?option=com_content&view=article&id=137&Itemid=90

4.35 The observer from IUCN introduced an article¹¹ entitled "*Geo-engineering, the Law of the Sea and Climate Change*" (LC 32/INF.2). It addresses ocean fertilization and other proposed marine geo-engineering projects that may fall within the purview of the London Convention and Protocol. The article described a representative selection from the current marine geo-engineering proposals, including ocean fertilization, and reviewed the principal applicable legally binding global instruments and their current mechanisms to assess and regulate geo-engineering in international law, with special attention to the London Convention and Protocol system, as well as the UN Convention on Law of the Sea (UNCLOS) and the Convention on Biological Diversity. Finally, the article examined the implications of these instruments for marine geo-engineering proposals in general.

¹¹ The article is excerpted from a special issue of the Carbon and Climate Law Review 4 (2009) on Climate Change and the Law of the Sea and represents only the view of its author.

4.36 One of the conclusions was that the London Convention and Protocol are at present the most appropriate and immediately effective international instruments to assess and regulate many of the proposed marine geo-engineering projects. If the mandatory legal requirements created under these instruments were not satisfied, these projects cannot legally proceed. The current work of the governing bodies on ocean fertilization is pioneering in its development of international law on marine geo-engineering and its environmental implications. The observer urged the governing bodies to continue with the excellent example they are setting, in their work on ocean fertilization in the context of the London Convention and Protocol, to ensure that the pressures to address climate change do not undermine the extensive rules for the protection of the marine environment that already exist.

4.37 The Meetings thanked the observer for her analysis and acknowledged that their regulation efforts created not only expectations but also responsibilities.

ANY OTHER ISSUES RELATED TO OCEAN FERTILIZATION

4.38 No other issues were raised related with ocean fertilization.

5 CO₂ SEQUESTRATION IN SUB-SEABED GEOLOGICAL FORMATIONS

TRANSBOUNDARY CO₂ SEQUESTRATION ISSUES

5.1 It was recalled that in 2009 the Meeting of Contracting Parties adopted resolution LP.3(4) "on the amendment of Article 6 of the London Protocol". The resolution invited the LP Scientific Group to:

- .1 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 2007 CO₂ Sequestration Guidelines; and
- .2 provide further specific guidance in cases of export of such streams to other countries for disposal and issues related to the management of transboundary movement of CO₂ after injection.

5.2 The Secretariat introduced a work plan for the LP Scientific Group to review the 2007 CO₂ Sequestration Guidelines, in light of the new amendments (LC 32/5). Paragraph 5 of the document described the proposed plan with timelines for a review in the intersessional period so that, if the plan would be agreed at this session, a full discussion could be held on the guidelines at the next session of the LP Scientific Group in the spring of 2011, aimed at completion of this activity in 2012. The work plan itself included the consideration of:

- .1 the tasks outlined in resolution LP.3(4), as mentioned above;
- .2 the transboundary CO₂ sequestration issues, identified in the past (as listed in the annex to document LC 32/5) and resulting from the amendment;
- .3 incorporation of, or references to, the CO₂ Sequestration Reporting Format adopted in 2008 (LC 30/16, annex 8);
- .4 general references which may be helpful for the review; and

- .5 any initial experiences of LP Contracting Parties with implementation of the 2007 CO₂ Sequestration Guidelines.

5.3 The Meeting of Contracting Parties was informed that: (1) the LP Scientific Group, at its extraordinary session, had approved the work plan for adoption (LC 32/WP.1, paragraphs 3.17 and 3.18, and annex 4); (2) that the United Kingdom had offered to lead the correspondence group on this action; and (3) that Australia, Canada, China, Germany, Italy, Japan, the Netherlands, Norway, the United Kingdom, the United States and Greenpeace International had expressed their interest in taking part in this review.

ACTION BY THE MEETING OF CONTRACTING PARTIES

5.4 The Meeting of Contracting Parties adopted the work plan for the review of the 2007 CO₂ Sequestration Guidelines, as shown in annex 8 to this report and instructed the LP Scientific Group to start with this review in 2011 and present a progress report to the next Meeting of Contracting Parties.

EXPERIENCES WITH CO₂ SEQUESTRATION TECHNOLOGIES AND THEIR APPLICATION

5.5 It was recalled that the governing bodies acknowledged in 2007 that it would be important for Contracting Parties to keep them informed, on a regular basis, of their experiences with CO₂ sequestration technologies and their application. This commitment had led to very informative reports in recent years both to the governing bodies and the Scientific Groups.

5.6 The delegation of Australia reported on the following two developments since the last session of the governing bodies:

- .1 In January 2010 construction work had commenced on the "Gorgon" LNG plant, onshore in Western Australia. An integral part of the project would be the capture and storage of the reservoir carbon-dioxide from the gas field. The plant would sequester between 2.7 and 3.5 million tonnes per year and some 130 million tonnes over the life of the proposal.
- .2 In March 2010 an offshore seismic survey was undertaken in Australian waters in Bass Strait. The survey, to investigate reservoir potential, took place under Australia's carbon capture and storage legislation.

5.7 The delegation of the United States informed the Meetings that, following the establishment of an interagency task force on CO₂ Sequestration issues, a review of options was completed and submitted to the President in August 2010. The delegation also provided an update of the "SCS Initiative" whereby, it is proposed, subject to final testing, CO₂ captured from an onshore power plant would be piped offshore for sequestration in a selected geological formation.

5.8 The Meetings thanked all delegations for the information they had shared and agreed that it was important to continue receiving relevant and up-to-date information on all scientific, technical as well as legal, aspects of CO₂ sequestration projects and encouraged Contracting Parties to inform them on relevant developments, if any, through submissions to the next session.

6 COMPLIANCE ISSUES

ELECTION OF MEMBERS OF THE LONDON PROTOCOL COMPLIANCE GROUP

6.1 It was recalled that, in 2007, the Compliance Procedures and Mechanisms (CPM) pursuant to Article 11 of the London Protocol had been agreed and that the 4th Meeting of Contracting Parties elected, in 2009, one member of the London Protocol Compliance Group only for its second session convened in that year, and two members for future sessions of the Group. The report of the second session is contained in document LC 31/15, annex 6.

6.2 The Meeting noted that the 3rd session of the Compliance Group would be convened in parallel with this session and that it was invited to elect:

- .1 new members for the Compliance Group nominated for participation at its 3rd session; and
- .2 new members of the Compliance Group nominated for the *intersessional period and its future sessions*.

ELECTION OF MEMBERS FOR THE 3RD SESSION OF THE COMPLIANCE GROUP

6.3 The Meeting was informed that the following three of the seven members of the Compliance Group would not attend its 3rd session:

- .1 Ms. Zhou Qian (China), who had resigned as a member due to a change of post in her Administration;
- .2 Ms. Marinka Bogdanova (Bulgaria), who had also resigned as a member and had informed the Secretariat that the Central and Eastern European Group had not nominated a replacement for her; and
- .3 Captain Federico Crescenzi (Italy), who had informed the Secretariat of his absence this week, due to illness.

6.4 **Following the nomination by Kenya of Mr. John Oming'o, which was endorsed by the Africa Group, the Meeting of Contracting Parties elected him to serve for three terms, starting from 16 October 2010.**

6.5 **Following the nomination by China of Mr. Baoxi Shang, which was endorsed by the Asia/Pacific Group, the Meeting of Contracting Parties elected him, replacing Ms. Zhou Qian and serve for the remainder of her term, expiring in October 2011.**

ELECTION OF MEMBERS FOR FUTURE SESSIONS OF THE COMPLIANCE GROUP

6.6 The delegation of the United Kingdom informed the Meeting of the nomination of **Ms. Carla Pike**, for three terms, to serve from 16 October 2010 onwards. Her nomination had been endorsed by the Western European and Other Countries (WEOG) Group.

6.7 The delegation of Japan informed the Meeting that the membership of **Prof. Hisakazu Kato**, who had been elected in 2008 for two terms, would expire on 16 October 2010. The delegation proposed an extension of his membership for one term, with the support from the Asia/Pacific Group.

6.8 The Meeting of Contracting Parties elected:

- .1 Ms. Pike (United Kingdom) to serve as a member for three terms starting from 16 October 2010, noting that with her election, the vacancy resulting from the expiry of the membership of Captain Federico Crescenzi (Italy), at the end of the 3rd session, had been filled; and**
- .2 Prof. Hisakazu Kato (Japan) for one additional term, so that his membership would now expire in October 2011.**

6.9 The delegation of South Africa informed the Meeting that consultations were ongoing in the Africa Group to nominate a further candidate from LP members of that Group in the intersessional period.

6.10 The Chairman reiterated in this regard the appeal which Mr. Palomares had made in his opening address to all Protocol Parties in Africa, Latin America, Central America and the Caribbean, as well as in Central and Eastern Europe, to put forward their nominations as soon as possible, to ensure that they, too, would be adequately represented at the next session of the Compliance Group in 2011.

6.11 To assist LP Parties in this regard the existing agreement was reconfirmed that any of the five UN regions which has not provided three members at this session may do so in the intersessional period with the approval of the Chairman and Vice-Chairmen of the Meeting of Contracting Parties (LC 31/15, paragraph 6.7).

6.12 Furthermore, the Meeting requested Contracting Parties to ensure that CG-members nominated by them received full support for the terms for which they had been elected, so as to enable the proper functioning of the Compliance Group.

CONSIDERATION OF THE REPORT OF THE 3RD MEETING OF THE COMPLIANCE GROUP

6.13 The Vice-Chairman of the Compliance Group, Prof. Hisakazu Kato (Japan) introduced the report of the 3rd meeting of the Compliance Group (LC 32/WP.2), which is reproduced as annex 9 to this report. In doing so, he also pointed out that the Group had worked intersessionally on a number of issues.

6.14 Prof. Kato emphasized that the Group during its meeting had focused mainly on systemic issues of non-compliance. He further stressed that the Compliance Group continues to be available to contribute and provide advice to any of the Correspondence Groups established by the governing bodies, for example on issues related to reporting. He also noted that the papers developed by the Compliance Group members during the intersessional period on various aspects of compliance and reporting may provide useful sources of information to other subsidiary groups as well.

6.15 As the Compliance Group had been established under the Protocol, the Group requested guidance from the governing bodies on the scope of their efforts to assist in terms of compliance issues related to the London Convention. The delegation of the United States expressed its concerns about the LP Compliance Group focusing on London Convention issues, in light of the Compliance Group's LP mandate and resources, and the practical difficulties highlighted in the Compliance Group's report. After a brief discussion, it was agreed that the Secretariat and the Compliance Group would jointly develop a strategy for this purpose.

6.16 **The Meeting 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, as far as practicable.**

The delegation of the United States proposed that an explanatory note would be attached to the website, for the purpose of clarification, since the documents available may not provide a full and complete record of the negotiations. It was agreed that the Secretariat would, based on the proposal by the United States, work intersessionally with the Compliance Group to finalize such a note once the material had been selected for making available online.

6.17 **After these discussions, the Meeting of Contracting Parties adopted the report of the Compliance Group, the recommendations therein, as well as the proposed future work programme of the Compliance Group for the period up to and including its 4th meeting in 2011.**

6.18 The Meeting thanked the Compliance Group for their efforts and tremendous progress, and expressed its appreciation to the Chair, Vice-Chair and all the members of the Compliance Group for their excellent work.

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

.1 Dumping Reports and the experiences with the E-Form

6.19 The Meetings noted that the Secretariat had circulated the final compilation report on dumping permits for **2006** as **LC-LP.1/Circ.34** and the new invitation to report on dumping permits issued in **2009** as **LC-LP.1/Circ.37**. These Circulars had also been placed on the London Convention and Protocol website. The Meetings also noted that the first draft compilation report for permits issued in **2008**, together with the final draft compilation report for permits issued in **2007**, had been considered by the Scientific Groups at their extraordinary session. Further details of these reports are set out in paragraphs 6.28 to 6.30, below.

6.20 The Meetings noted that the Scientific Groups had been unable to commence a review of the compilation reports currently being provided by the Secretariat, as planned for 2010. The Meetings also noted that the Groups intended to conduct a thorough analysis of the reporting process at their next joint session in 2011 and had agreed a work plan with associated timelines. It was further noted that the Groups had reviewed proposals by the United States regarding changes to the Electronic Reporting Format and the accompanying Explanatory Notes to improve the annual report of dumping activities submitted to the Secretariat by Contracting Parties.

6.21 In this context, the Meetings noted that it would be useful to consider the recommendations made by the Compliance Group in relation to all forms of reporting as required under the Protocol (refer to item 5 of the agenda (LP-CG 3/1)) in any thorough review of the current reporting process, which at present, is the absolute minimum.

.2 Database development

6.22 The Meetings noted that Mrs. Brigitte Lauwaert (Belgium), coordinator of the Correspondence Group on Assessment of Dumping Reports, was unable to attend this session. The Secretariat informed the Meetings that the population of the dumping database, developed by her, is complete and that maps of dumping sites would also be included for 2006. It is envisaged that data, and maps, would be accessible via a link (web-based) that would become available in the near future. It is envisaged that a

demonstration of this database would be given at the next session of the Scientific Groups in 2011. The Meetings also noted that the Secretariat, and the Chairman of the B2C Steering Group, would explore the possibility of using the IMO-GISIS (Global Integrated Shipping Information System) platform for future information entry.

.3 Dumping Incident Information Reports

6.23 The Meetings noted that no reports of incidents have ever been received since the Dumping Incident Information Form was circulated to Parties in 2003 (LC.2/Circ.430) and placed on the LC website in 2007. It was suggested that the Secretariat reissue information about this reporting mechanism, which is a requirement by Parties set out under Article 10.3 of the Protocol and the equivalent Article VII-3 of the Convention in coordination with information on all reporting requirements being prepared by the Compliance Group (LP CG 3/7).

ACTION BY THE GOVERNING BODIES

6.24 In the ensuing discussion, and taking into account the recommendations made by the Scientific Groups on these issues, the governing bodies:

- .1 endorsed the Scientific Groups' recommendation to have the proposed revisions to the LC/LP Electronic Reporting Format be dealt with as part of the larger revision of the reporting process, taking into account the recommendations from the Compliance Group;**
- .2 endorsed the establishment of a Correspondence Group under the lead of the United States¹² to start this review, intersessionally, and report to the next regular session of the Scientific Groups in 2011; and**
- .3 agreed that the Scientific Groups should continue working on this issue at their next session in 2011, on the basis of the report of the Correspondence Group.**

COMPLIANCE WITH THE NOTIFICATION AND REPORTING REQUIREMENTS UNDER ARTICLE VI(4) OF THE CONVENTION AND ARTICLE 9.4 OF THE PROTOCOL (LC 32/6)

6.25 The Secretariat informed the Meetings that annex 1 to document LC 32/6 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 2008. The Meetings noted that due to an error in processing the United States entry should indicate that a report for 2008 had been provided. The Meetings also noted that since the issuance of this report on 14 July 2010, additional reports were provided by: all OSPAR countries (except Denmark) and Japan for 2008; from Brazil, China, Finland, France, Japan, Poland, New Zealand, Saudi Arabia and the United States for 2009; and from Egypt for 2010. The Meetings further noted that since the entry into force of the Convention, in 1975, the overall response rate of Contracting Parties had increased to just above 50%, with the overall trend slightly improving.

6.26 With respect to annex 2 of document LC 32/6 listing the Contracting Parties that had not reported in the last five years, the Meetings noted that reports had been received from the OSPAR, HELCOM, the Black Sea Commission and BARCOM Secretariats, and from countries attending previous Technical Co-operation Workshops held in South America and the Wider Caribbean Region. This had resulted in an increase in the number of reports from

¹² The coordinator, Mr. Patrick Cotter can be contacted at Cotter.Patrick@epa.gov

non-LC/LP Parties which is a positive sign of preparedness to provide data. As a result, some States had been removed from the list of non-reporters while others had been added for the period in question. The final list therefore has been reduced to **26** Parties that have not reported in the last five years, which is an improvement on previous years.

6.27 In conclusion, the governing bodies:

- .1 urged all Contracting Parties, if they have not done so, to provide the Secretariat with their annual reports, including NIL reports (indicating that no dumping activities were carried out in a particular year) as soon as possible;**
- .2 encouraged Contracting Parties to contact neighbouring Parties who have not recently reported, to offer guidance or assistance in preparing their reports; and**
- .3 instructed the Secretariat to advise National Focal Points of these conclusions at the earliest opportunity.**

REVIEW OF THE FINAL DRAFT COMPILATION REPORT ON DUMPING PERMITS ISSUED IN 2007 (LC 32/INF.3)

6.28 The Secretariat informed the Meetings that document LC 32/INF.3 set out the final draft compilation report for data on permits issued in 2007, including locations of dump sites (maps), which the Secretariat had updated since the last session of the governing bodies.

6.29 The Meetings further noted that the Secretariat intended to release the final 2007 report, following a final quality check on data, before the end of January 2011 and post it on the London Convention and Protocol website as soon as practical thereafter. The Secretariat would also submit a final draft compilation report for 2008 and a first draft compilation report for 2009 for consideration by the Correspondence Group on Assessment of Dumping Reports after which it would be submitted to the next session of the Scientific Groups in 2011 for their review.

ACTION BY THE GOVERNING BODIES

6.30 In conclusion, the governing bodies:

- .1 urged all Contracting Parties, if they had not done so, to provide the Secretariat with the reports on, or corrections to, their dumping activities in 2007 before 31 December 2010; and**
- .2 instructed the Secretariat to:**
 - .1 publish the summary report on permits issued in 2007 in January 2011 following a final edit;**
 - .2 submit a final draft compilation report for 2008 and a first draft compilation report for 2009 to the Correspondence Group on Assessment of Dumping Reports for their review; and**

- .3 invite the Correspondence Group on Assessment of Dumping Reports to report on its review of these compilation reports to the next session of the Scientific Groups in April 2011.**

REPORTS ON COMPLIANCE MONITORING ACTIVITIES

6.31 It was recalled that Contracting Parties to both the Convention and Protocol were invited to submit reports on compliance monitoring to this session as these compliance issues are submitted directly to the governing bodies. These reports would not only be important to show that the goals of dumping policies and permit conditions were met, but would contribute to show to a wider audience that the London Convention and Protocol are effective agreements. The Meetings noted that no specific compliance reports had ever been submitted to the governing bodies, and it was recognized that such reports would offer valuable information for the LP Compliance Group.

ACTION BY THE GOVERNING BODIES

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

- .1 invited Contracting Parties to both the Convention and Protocol to submit reports on compliance monitoring to their next session; and**
- .2 given the lack of compliance monitoring reports received to date, invited the Compliance Group, in consultation with the Scientific Groups, to review this aspect, as part of their planned reviews of all reporting requirements under the Protocol.**

7 TECHNICAL CO-OPERATION AND ASSISTANCE

IMPLEMENTATION PLAN OF THE "BARRIERS TO COMPLIANCE" PROJECT (LC 32/7 AND LC 32/7/2)

7.1 The Meetings recalled the 2009 decisions in relation to the execution and planning of various activities under the "Barriers to Compliance" (B2C) Project (LC 31/15, paragraph 7.14).

7.2 The Secretariat informed the Meetings that the amended Implementation Plan had been reviewed, in consultation with the Chairman of the B2C Steering Group, Mr. Patrick Cotter (United States) since the Scientific Groups had not met this year. The Meetings noted that in the next 12-18 months it is envisaged that National or Regional Workshops would be organized for South Asian countries (hosted by Bangladesh), West African countries (hosted by Ivory Coast), Black Sea countries (hosted by the Black Sea Commission), ASEAN countries (hosted by Thailand and Indonesia) and a Workshop planned in the Islamic Republic of Iran. A National Workshop is scheduled for Turkey in 2011 as a follow-up to a needs assessment mission undertaken in November 2009.

7.3 In reviewing the execution and expenditure of various activities completed as part of the B2C Project since its commencement in 2008 (LC 32/7 and LC 32/7/2), the Meetings noted that in the period 2008-2009, 10 workshops had been completed in locations in six global regions. A total of 61 countries had attended the workshops represented by more than 350 attendees. There had been some 200 expert presentations on global, regional and national issues related to the London Convention and Protocol. The Meetings also noted the ledger of expenditure against initial budgets and that full reports on these activities, containing useful information and recommendations for further work, were available on the London Convention and Protocol website (http://www.imo.org/dynamic/mainframe.asp?topic_id=1797).

7.4 The Meetings noted, with appreciation, the following new offers in relation to the financial, or in-kind, support of the activities under the "B2C" Project:

- .1 the delegation of the Republic of Korea announced that Korea would be willing to host the joint session of the Scientific Groups in 2012. These meetings were tentatively scheduled for 21 to 25 May 2012 and would be held at a venue yet to be determined. The delegation also offered that it would co-host a regional Workshop for marine pollution and environmental management for Asia-Pacific countries similar to other LC/LP Workshops in the week prior to a Scientific Groups meeting, together with the IMO and other regular partners and international sponsors. The delegation also confirmed that it had provided US\$15,000 towards the B2C Project in 2010;
- .2 the delegation of China pledged US\$10,000 towards the B2C Project, in particular for Workshops in the Asia-Pacific Region. China would also continue to provide experts to help delivering Workshops in the same Region;
- .3 the delegation of the United States confirmed that it would provide experts and would contribute to the B2C Project in other ways in the future; and
- .4 the observer from Greenpeace International reiterated its support for the B2C Project and offered in-kind assistance in the form of expert advice or through its global network, where appropriate.

7.5 Several delegations that spoke expressed their appreciation for recent Workshops held in their respective regions. Other delegations articulated their wish to attend future Workshops if slots became available.

7.6 The Meetings also noted that a request for support, of in total €250,000, that had been submitted to the Swedish International Development Agency, had been rejected. It was further noted that limited action had been undertaken in relation to the support from the French Government's Fonds Français pour l'Environnement Mondial (FFEM), for a total of €350,000, that had been approved in April 2009 for B2C activities in Algeria and Egypt for the period 2010 – 2011 because of a lack of human resources within the Secretariat to implement these activities. However it was noted that the conclusion of an agreement with the French government would be pursued in the near future in which the resource issue was resolved.

FOLLOW-UP EVALUATION QUESTIONNAIRE FOR REGIONAL OR NATIONAL WORKSHOPS UNDER THE "BARRIERS TO COMPLIANCE" PROJECT (LC 32/7/1)

7.7 The Chairman of the B2C Steering Group introduced a draft Follow-up Questionnaire to evaluate the effectiveness of past national or regional Workshops on the London Convention and Protocol (LC 32/7/1). The Meetings noted that the Follow-up Questionnaire had been developed with the aim of forwarding it to workshop participants about six months after the conclusion of a regional or national workshop. These questions can be used to see how the information presented assisted them in achieving their programme goals, or to enquire if additional information is needed. The Questionnaire might also be uploaded to the Technical Co-operation area on the London Convention and Protocol website so it could be used as a reference for participants or for other ocean dumping programme staff who were unable to attend the specific workshops.

7.8 All delegations that spoke supported the Follow-up Questionnaire as it would assist in improving the effectiveness of activities being conducted under the B2C Project.

THE SEA-WASTE NETWORK PHASE II PROJECT IN SOUTHERN AND EASTERN AFRICA

7.9 The Meetings recalled the 2009 decisions in regard to a proposal by the International Ocean Institute Southern Africa branch (IOI-SA), which is the coordinator of the SEA-WASTE Network, to extend the Project (LC 31/15, paragraph 7.14.5)

7.10 The Secretariat informed the Meetings that in March 2010, it had requested further information from IOI-SA so that an assessment could be made of which activities might be funded. The Meetings noted that while no such information had been received as yet, the Secretariat, in cooperation with the OSPAR Secretariat and the Abidjan Convention Secretariat had explored the possibility of holding a joint Regional Workshop in Côte d'Ivoire for all Abidjan Convention countries to support capacity building for ecosystem-based management. The Workshop would facilitate exchange of best practices and lessons learned and raise awareness to the benefits of the work of the above-mentioned organizations, including the legal framework for marine pollution management, London Protocol procedures and requirements and the identification and designation of relevant spatially based protection measures, through IMO. The SEA-WASTE Network had been invited to participate in the organization and attendance of this Workshop and this would satisfy one of their proposed activities.

7.11 The Meetings also noted that the Abidjan Workshop is tentatively scheduled for January 2011 and would be funded by the United States, and several OSPAR Contracting Parties. At this point in time, there was a shortfall of approximately US\$25,000.

7.12 Several delegations that spoke expressed the view that the SEA-WASTE Network should be supported through this workshop as recommended by the Scientific Groups.

ESTABLISHMENT OF THE B2C STEERING GROUP

7.13 The Meetings, having considered the discussion in plenary, re-convened the B2C Steering Group, under the lead of Mr. Patrick Cotter (United States) and instructed it to:

- .1 review the draft Follow-up Questionnaire, and taking into account comments made in plenary, amend it accordingly for approval by the governing bodies; and
- .2 time permitting, develop arrangements and timelines to review and update the implementation plan for the B2C Project, intersessionally, taking into account the progress reports by the Secretariat on this Project and the comments thereto, as received in plenary, with a view to presenting an updated implementation plan to the Scientific Groups for review at their next session in 2011.

REPORT OF THE B2C STEERING GROUP

7.14 The Chairman of the B2C Steering Group, Mr. Patrick Cotter (United States) informed the Meetings that the Group had made several minor editorial amendments to the Follow-up Questionnaire and that it had developed, as instructed, suitable work arrangements to review the implementation plan of the B2C Project. The Chairman would continue revising the implementation plan through correspondence.

ACTION BY THE GOVERNING BODIES

7.15 In conclusion, the governing bodies:

- .1 instructed the Steering Group to report on the revised implementation plan to the next session of the Scientific Groups in 2011 for their review;**
- .2 agreed that the donor-supported projects including the indirect support for the SEA-WASTE Network Phase II project, should be implemented and instructed the Secretariat to inform the governing bodies on their outcomes at their next session;**
- .3 approved the Follow-up Questionnaire, as amended, and as shown in annex10 to this report;**
- .4 instructed the Secretariat to distribute this Questionnaire to past participants and provide an analysis of the responses to the next session of the Scientific Groups in 2011 for their review; and**
- .5 encouraged interested Contracting Parties to join the B2C Steering Group, be they donor or recipient countries.**

STATUS REPORT ON THE DEVELOPMENT OF THE GLOBAL INVENTORY OF DUMPING ACTIVITIES IN THE PERIOD 2000-2005 ("STATE OF SEA DUMPING" REPORT – SDDR)

7.16 The Meetings recalled that in 2008 the Centre for Environment, Fisheries & Aquaculture Science (CEFAS) in the United Kingdom had been contracted to develop the global inventory of dumping activities in the period 2000-2005 ("State of Sea Dumping" Report – SDDR) which would underpin and inform other activities being considered and planned under the overall B2C Project. The SDDR would provide a better understanding of what is being dumped where, including, especially, reports outside of the LC/LP reporting system. The data would include quantities of material dumped, types of wastes dumped, frequency of dumping activities if possible, and the period over which the dumping occurred.

7.17 The Chairman of the Scientific Groups informed the Meetings that the Groups had considered a status report by the United Kingdom on the development, since 2009, of the SDDR. The Meetings noted that despite considerable efforts made in 2009-2010 to collect information from various governmental and intergovernmental sources, and industry bodies, the feedback of dumping data received thus far had unfortunately been limited.

ACTION BY THE GOVERNING BODIES

7.18 Following a brief discussion, the governing bodies endorsed, at the recommendation of the Scientific Groups, their plan for further action, in particular to:

- .1 discuss the issue of low reporting returns at every LC/LP Workshop being planned;**
- .2 replicate Australia's good experience with contacting SPREP countries for LC/LP purposes in other parts of the world; and**
- .3 involve "champions" in reporting with further efforts to collect data in their region.**

7.19 The governing bodies also extended the deadline for completing the SDDR to the next session of the Scientific Groups in 2011.

STATUS REPORT ON THE DEVELOPMENT OF AN EXTENSION TO THE WAG TUTORIAL FOR LOW-TECHNOLOGY TECHNIQUES FOR ASSESSING DREDGED MATERIAL

7.20 The Meetings recalled the discussion in 2009 on the development of the WAG Tutorial Extension together with a communications plan, and in particular, the endorsement of the Scientific Groups' agreement to establish an Intersessional Correspondence Group, under the lead of WODA, to conduct an initial review of draft texts of the WAG Tutorial Extension (LC 31/15, paragraphs 7.24 to 7.27).

7.21 The Chairman of the Scientific Groups informed the Meetings that the Groups had considered a status report presented by WODA and the delegation of the United Kingdom on this issue. The Meetings noted that a first draft of the WAG Tutorial Extension had been circulated, on 7 October 2010, to the Correspondence Group, established by the Scientific Groups in 2009 (LC 32/WP.1, paragraphs 3.24 to 3.26).

ACTION BY THE GOVERNING BODIES

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

- .1 endorsed the Scientific Groups' agreement to re-establish the intersessional correspondence group, under the lead of WODA; and**
- .2 encouraged WODA to submit a full draft of the Low Technology WAG Tutorial Extension for review by the next meeting of the Scientific Groups in April 2011 and aimed at completion of this project by the end of 2011.**

PROGRESS WITH AND PLANS OF BILATERAL TECHNICAL CO-OPERATION PROJECTS BETWEEN COUNTRIES, AS REPORTED BY CONTRACTING AND NON-CONTRACTING PARTIES

7.23 The Chairman recalled that this item is meant to encourage countries to report on bilateral projects they had established for capacity-building in the field of protection of the marine environment and promotion of sound waste management.

7.24 **As no reports had been presented, Contracting Parties were encouraged to report on noteworthy bilateral co-operation projects to future meetings.**

8 INTERPRETATION OF THE LONDON CONVENTION AND PROTOCOL

COOPERATION WITH MEPC (WORKING GROUP ON BOUNDARY ISSUES): GUIDANCE ON MANAGEMENT OF SPOILT CARGOES (LC 32/8/1)

8.1 It was recalled that in October 2009, the governing bodies were informed that MEPC had adopted – with minor editorial changes – the "Guidance on Managing Spoilt Cargoes" which had been prepared by the Scientific Groups in recent years. In anticipation of the completion of the review of MARPOL Annex V by the MEPC Correspondence Group, the governing bodies had agreed to start preparing a plain language information brochure and an IMO training module for review by MEPC in 2010 to ensure a greater uptake of the Guidance.

8.2 The Meetings noted that in March 2010, MEPC 60 continued its consideration of MARPOL Annex V and it was envisaged that the review might be completed at MEPC 61. Unfortunately, the planned review of outreach material by the Scientific Groups in April 2010 did not take place and the further development of the material was postponed. In September 2010, MEPC 61, having considered the final report of the MEPC Correspondence Group, finalized its review of Annex V, enabling the Committee to consider the "Revised MARPOL Annex V" for formal adoption at MEPC 62 in July 2011.

8.3 The Meetings also noted that the Committee considered a recommendation for setting the discharge limit for animal carcasses under Annex V at two per cent of the cargo of livestock as a trigger point where the flag State must be notified prior to any further discharge. This would then give the flag State, in consultation with potentially affected coastal States, the opportunity to determine whether an LC/LP permit would be required for any further discharge of animal carcasses and to set conditions accordingly. The Committee also agreed to distribute the questionnaire proposed by the United States (MEPC 61/7/10) seeking information on practices related to disposal of spoilt cargo at sea, as it may yield additional data for the Committee when it considers the final text of the Revised MARPOL Annex V. This questionnaire had also been submitted to the governing bodies (LC 32/8/1), and if approved, could then be combined to cover both the MEPC and LC/LP constituencies. Any additional information so received would not only help the Committee to put the final touches to the Revised MARPOL Annex V, but also underpin implementation of the 2008 Guidance on Managing Spoilt Cargoes and the work the governing bodies planned to undertake, jointly with the MEPC, on the **plain language information brochure** and a **training module** covering the Guidance.

8.4 The delegation of the United States informed the Meetings that document LC 32/8/1 provided the suggested text for an LC/LP Circular and associated questionnaire, which would be useful in LC/LP and MEPC discussions about spoilt cargo disposal issues. The questionnaire was intended to obtain factual information with respect to current practices and regulation of spoilt cargo disposal, including disposal of animal carcasses, from vessels. Additional information concerning these topics, as well as any conditions or best practices that are or should be associated with such disposal would be useful with respect to: (1) LC/LP implementation of the "Guidance on Managing Spoilt Cargoes"; (2) the associated development of an LC/LP outreach strategy and guidance; and (3) the consideration of potential amendments to MARPOL Annex V.

8.5 The Meetings noted that MEPC 61 had approved the questionnaire whilst encouraging Member Governments and observers to disseminate it and to submit responses and other relevant information for consideration by MEPC 62 (July 2011). It is expected that the information provided in response to the questionnaire would help the MEPC reach a balanced decision when considering amendments to MARPOL Annex V for adoption.

8.6 The Chairman of the Scientific Groups informed the Meetings of the recommendations of the Scientific Groups in this regard (LC 32/WP.1, paragraphs 3.40 to 3.43).

ACTION BY THE GOVERNING BODIES

8.7 Following a short discussion, the governing bodies:

- .1 endorsed the Scientific Groups' recommendation to postpone the further development of outreach material for spoilt cargo management until the revision of the Guidelines associated to the Revised Annex V to MARPOL was completed;**
- .2 noted the Scientific Groups' willingness to assist in the further consideration of the discharge conditions for spoilt cargoes, by analysing any information that might be made available by administrations on current practices in response to the questionnaire;**
- .3 noted the Scientific Groups' concern regarding the process and short deadlines that were imposed in relation to the discussion on spoilt cargoes *vis-à-vis* the planned adoption of the revised Annex V of MARPOL in July 2011;**
- .4 approved the LC/LP questionnaire, as amended, and as shown in annex 11 to this report;**
- .5 instructed the Secretariat to:**
 - .1 circulate the questionnaire to LC/LP National focal points as soon as possible encouraging respondents to liaise with maritime administrations planning to respond to the same questionnaire to MEPC 62 (MEPC 61.24, annex 12); and**
 - .2 provide an analysis of responses to the Scientific Groups in April 2011 for their consideration with a view to forward this to the MEPC Correspondence Group for the Review of MARPOL Annex V.**

RIVERINE AND SUB-SEA DISPOSAL OF TAILINGS AND ASSOCIATED WASTES FROM MINING OPERATIONS

8.8 It was recalled that last year, the governing bodies endorsed the Scientific Groups' agreement to collaborate with UNEP-GPA commencing with "riverine and sub-sea disposal of mine tailings and associated wastes". The governing bodies also instructed the Secretariat to proceed, in cooperation with UNEP-GPA, with engaging a consultant to collect relevant information regarding the type and extent of the issue and to obtain information from Contracting Parties about the environmental controls in place for these mining operations. This work would form the basis for a policy discussion at a future session of the governing bodies and possibly for the development, from a regulatory perspective, of a general guidance document.

8.9 The Secretariat informed the Meetings that in January 2010, it had invited Parties to report on environmental controls in place for sub-sea and riverine tailings disposal operations through LC-LP.1/Circ.35. Parties were requested to report on: (1) whether any land-based mining operations are being conducted involving discharge/placement of mine tailings into sub-sea environments through pipelines?; (2) whether such activities have taken place in the past?; (3) what kind of environmental controls exist to regulate such activities?; and

(4) whether these discharge/placement operations were the subject of monitoring and reporting as part of a discharge licence.

8.10 In view of the limited number of replies received, and the attempts, yet without success, by UNEP-GPA to secure funding to contract a consultant to this project, the Secretariat approached, in June 2010, some countries, individually, with an active mining industry (Canada, Indonesia, Peru, Papua New Guinea, Russian Federation, Solomon Islands and Spain) with a new, expanded, questionnaire aimed at collecting key information to gain a better understanding of the type and extent of this issue and about the environmental controls in place for these mining operations.

8.11 In coordination, the UNEP-GPA Secretariat had also approached its contact points in Chile, the Democratic Republic of the Congo, Ecuador, Libya, Mozambique, South Africa, and Tanzania with the same questionnaire. To date, only three additional Parties had replied (Canada, Peru and the Russian Federation) and further replies were expected in the near future.

8.12 The Scientific Groups had reviewed the limited number of replies the Secretariat received thus far only from Australia, Brazil, Canada, China, Japan, the Philippines, Poland, Sweden and the United States.

8.13 The Chairman of the Scientific Groups informed the Meetings of the outcome of the Scientific Groups' consideration of this issue (LC 32/WP.1, paragraphs 3.44 to 3.47); in particular, their agreement to recommend that:

- .1 the collection of further information on the type and the extent of sub-sea and riverine mine tailings disposal operations should be continued, where possible, including:
 - .1 from Norway on its reported discharge of mine tailings in fjords;
 - .2 from Papua New Guinea on the implementation of recent environmental management guidelines, which had been facilitated by the Scottish Association for Marine Science (SAMS); and
 - .3 through the International Marine Minerals Society, as suggested by IUCN;
- .2 notwithstanding the above-mentioned action a further questionnaire should be developed focusing on best management practices or guidelines used by those countries that have an active mining industry, but do not employ sub-sea/riverine tailings disposal or that had discontinued such practices in recent years;
- .3 information should also be collected on the presence of storage facilities (such as lagoons and dams) of industrial wastes near the coasts (e.g., maximum distance of 100 km) where, in case of an emergency, the marine environment might be at risk; and
- .4 Contracting Parties should be invited to provide funds (\$10,000 - \$15,000) for hiring a consultant to assist with this issue, or authorize the Secretariat to use funding from the B2C Project instead.

ACTION BY THE GOVERNING BODIES

8.14 **The governing bodies endorsed the Scientific Groups' recommendations.**

THE RELATIONSHIP BETWEEN THE HONG KONG SHIP RECYCLING CONVENTION AND THE LONDON CONVENTION AND PROTOCOL

8.15 The Meetings recalled that in 2000, the Consultative Meeting, having agreed that resolution LC.56(SM) adopted in conjunction with the London Protocol, on "Sea Disposal of Vessels" was still relevant, agreed to review the adequacy of existing international provisions for sea disposal of vessels in four years' time, particularly in light of the experience with implementing the Specific Guidelines for Assessment of Vessels (2000) and of the activities in the MEPC concerning the development of a Convention on the safe and environmentally sound recycling of decommissioned vessels.

8.16 The Meetings noted that document LC 32/8 set out the key elements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HK SRC), which was adopted in 2009, and the possible relationship that it may have with the London Convention and Protocol, in particular relating to the disposal of vessels at sea. The new Convention is not yet in force and it may take a while before it does. Meanwhile MEPC, two weeks ago, had progressed its work relating to development of guidelines for the implementation of the HK SRC although it had not finalized any of them.

8.17 The Meetings were invited to take note of the information provided and, in particular, consider adding the activities listed in paragraph 17 of document LC 32/8, with appropriate timelines, to the Joint Long-term Programme for the London Convention and Protocol.

8.18 In the ensuing discussion, the Meetings, while welcoming the adoption of the HK SRC, recognized that there was no urgency to review the Specific Guidelines for Assessment of Vessels, 2000, since the HK SRC was not expected to enter into force in the near future and there still was some work pending before its related guidelines could be finalized. The prevailing opinion of the Meetings being that, given the heavy workload of the Scientific Groups, the best course of action would be to wait until the MEPC had concluded its work on the HK SRC Guidelines.

8.19 A number of delegations, that spoke, were also concerned about the proposal to consider removing vessels from Annex 1 to the Protocol. While it was recognized that vessel disposal at sea has been or is being phased out under some regional conventions, there were some Parties that do not have recycling facilities and indeed they may be remote from such facilities. It might also be that, following assessment under Annex 2 to the London Protocol, sea disposal is found to be the most appropriate option, possibly the only safe option for disposal of vessels, provided all other LC/LP requirements were met.

ACTION BY THE GOVERNING BODIES

8.20 **In conclusion, both governing bodies agreed to invite the Scientific Groups to conduct a preliminary discussion at their next session on how to approach the review of the Assessment Guidelines, taking into account the HK SRC Guidelines and information received from Member States, and to advise the governing bodies accordingly, at their next session in October 2011.**

9 MATTERS RELATED TO THE MANAGEMENT OF RADIOACTIVE WASTES

9.1 It was recalled that, in 2003, the 25th Consultative Meeting adopted IAEA Guidance on how to conduct specific assessments under Step 6 of the "Guidelines for the Application of the *De Minimis* Concept under the London Convention 1972" which itself had been adopted in 1999 (LC 21/13, annex 6; LC 25/16, paragraph 8.20). As the IAEA Guidance addressed only effects on human health, the governing bodies, therefore, urged the Agency to continue its work on the development of a mechanism for environmental protection from the effects of ionizing radiation so that the protection of the environment could be adequately addressed in a specific assessment, under Step 6 of the 1999 Guidelines. The Meetings noted that the 25th Consultative Meeting stressed that, in the meantime, Contracting Parties should use a precautionary approach and ensure that an assessment of potential effects on marine flora and fauna and legitimate uses of the sea would be included in specific assessments using contemporary scientific information.

9.2 The Meetings also recalled that, in 2006, the governing bodies agreed to update the following two inventories regarding radionuclides at sea, as coordinated by IAEA:

- .1 *Inventory of Radioactive Waste Disposals at Sea* (IAEA-TECDOC-1105) lastly presented in 1999 to the 21st Consultative Meeting; and
- .2 *Inventory of Accidents and Losses at Sea Involving Radioactive Material* (IAEA-TECDOC-1242) lastly presented in 2001 to the 23rd Consultative Meeting.

9.3 Since 2003, the IAEA had annually informed the Meetings on the progress achieved as reflected in the session reports. The latest information received by letter of 11 October 2010 from the Agency, reporting on the two major areas referred to above, was distributed to this session and is reflected in the paragraphs below.

UPDATE OF THE DATABASES ON RADIOACTIVE MATERIALS DUMPED IN THE OCEANS AND THE SOURCES OF RADIATION AND RADIOACTIVE MATERIALS AT SEA RESULTING FROM ACCIDENTS AND LOSSES

9.4 With regard to the two inventories, the IAEA had, in the last three years, not received any further notifications of additional radioactive waste disposals other than the two notifications previously provided by France and the United States. In both cases, these were not new waste disposals, but rather disposals that were conducted several decades ago and were missed in the earlier inventory report. The IAEA was updating the two inventory reports and the current plan was to combine both inventories into a single report. In addition to including the radioactivity introduced into the ocean by disposal and accidents and losses at sea, this report would include complementary information about the total flux of natural and artificial radionuclides to the oceans. A draft document would be presented for consideration at the next session of the governing bodies in 2011.

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

9.5 The IAEA reported it had been following various international initiatives to progress the scientific knowledge with regard to the relationships between the exposure of flora and fauna to radiation and the associated radiological consequences. This scientific knowledge would permit the future development of a "system for radiological protection of the environment", similar to the existing "system for radiological protection of humans", developed by the International Commission on Radiological Protection (ICRP) and upon

which all of the international standards for radiation safety were based. While this complex new system continues to be developed, the present level of knowledge and some recent international recommendations and standards¹³ allowed the IAEA Secretariat to create a "regulatory procedure" which covered all the needs of the London Convention and Protocol. This regulatory approach was developed by the Agency to demonstrate protection of the environment (including natural resources and marine flora and fauna) for the exposure scenarios related to the London Convention and Protocol. This procedure was based on the existing scientific knowledge and, at the same time, it is practical, simple to apply and consistent with the existing approach being used for the London Convention and Protocol to demonstrate protection of humans.

9.6 This regulatory procedure is currently being completed and tested before its presentation to and consideration by the next session of the governing bodies in 2011. A detailed paper would be submitted sufficiently in advance of that session in order to provide the opportunity for additional clarifications to be requested and the necessary responses to be formulated *prior* to the session.

9.7 After that session in 2011, the IAEA would provide a report containing a data set for exposures to non-human species for exposure conditions which are fully consistent with those assumed in IAEA-TECDOC-1375. In order to derive this data set, the most recent IAEA and ICRP compilations of data would be used.

9.8 In discussing the report from the Agency, the delegation of the United States noted that the sinking of the nuclear submarine K-159, while being under tow, had not been recorded in the *Inventory of Accidents and Losses at Sea*. The Secretariat was requested to contact the IAEA on this issue.

9.9 In conclusion, the governing bodies appreciated the information provided by the IAEA and, in particular, the Agency's commitment to provide both the revised inventories and the document on the regulatory system for the protection of the environment available for review in advance of the next session of the governing bodies in 2011.

ISSUES RELATED TO BARGE MOUNTED TRANSPORTABLE NUCLEAR REACTORS

9.10 The observer from Greenpeace International informed the Meetings that the issue of barge mounted transportable nuclear reactors (floating reactors) was coming rapidly up the agenda for the IAEA, which might be of relevance and interest to LC/LP Contracting Parties. It seemed that the Agency would engage in a review of existing safety and environmental protection measures in relation to these developments and it would, therefore, seem reasonable that the London Convention and Protocol become involved in that consultation, in particular when reference is made to the conduct of a deep review of the existing tools such as "international legal instruments and Safety Standards". Just as the IAEA contributed to the work of the London Convention and Protocol, it should be possible to reciprocate, especially as floating reactors presented significant issues in relation to the prevention of marine pollution.

¹³ e.g., the 2006 IAEA Safety Fundamentals, the 2010 Draft IAEA Revised Basic Safety Standards for Protection against Ionizing Radiation, the 2007 ICRP Publication No. 103 and the 2008 ICRP Publication No. 108.

9.11 **In conclusion, the governing bodies requested the Secretariat to:**

- .1 **collect further information on this issue;**
- .2 **contact IAEA and in particular obtain a report of the IAEA meeting to discuss the INPRO Study on Legal and Institutional Issues of Transportable NPPs, held in Vienna from 5 to 6 October 2010; and**
- .3 **report back to their next joint session, in October 2011.**

10 MONITORING FOR THE PURPOSES OF THE LONDON CONVENTION AND PROTOCOL

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

10.1 It was recalled that, in 2009, the governing bodies had noted an initial report under the "Monitoring and Assessment Project" in relation to sea disposal activities carried out since 1996, which the Secretariat had launched in September 2009, at the recommendation of the Scientific Groups. The objective of this project was to assess the experiences of Parties with implementation of the "Generic Guidelines" in relation to field monitoring activities. As a first step, an inventory and analysis would be prepared by a consultant of the field monitoring activities which Parties had carried out since 1996 and reported to the Secretariat. Further background information on this project can be found in the reports LC 31/15 and LC/SG 32/15.

10.2 The project consultant, Mr. Rick Boelens, introduced the documents LC 32/10 (summary) and LC/SG 33/7 (full report). 90 reports had been reviewed on monitoring submitted to the Secretariat since 1996. These reports encompassed more than 140 scientific projects including surveys of sea disposal sites undertaken for compliance purposes as well as research projects concerned with monitoring techniques and disposal site management. They related predominantly to dredging and dredged material. In most cases, the objectives of the surveys, or the hypotheses to be tested, were clearly stated and details given of methodologies, findings and their implications. Concluding statements of some survey reports, however, did not adequately contrast the findings with objectives, impact hypotheses or predictions established at the start of the surveys. The geographic scales of reported disposal site surveys, including reference areas, varied from a few hectares to more than 1,000 km². Basic details of all reports and surveys had been recorded in a series of spreadsheets (Microsoft Excel©) which could form the basis of a monitoring archive for LC/LP purposes.

10.3 Mr. Boelens drew the Meetings' attention to the following key findings of the report:

- .1 *It is important for the credibility and reputation of the London Convention and Protocol that there is an effective means of verifying that permitted sea disposal operations have not caused pollution outside the designated disposal areas. The measures which Parties take to prevent harm from disposal at sea must be based on:*
 - The Waste Assessment Framework (LP Art.4 and Annex 2)
 - Permits and permit conditions (LP Art. 4)
 - Monitoring compliance with permits and permit conditions (LP Art. 9)
 - Monitoring to confirm "assumptions" (LP Art. 9);

- .2 *The current level of compliance with the requirements for monitoring and reporting conditions at disposal sites is not sufficient to show whether or not the Convention and Protocol are achieving their objectives.* The underlying fact here was that, approximately 60% of the circa 1,300 permits issued, annually, since 1996 were issued by Parties that did not provide information on monitoring;
- .3 *It is most important that Parties communicate the reasons for NOT monitoring, or reporting results of monitoring, to the Secretariat; and*
- .4 *A practical step towards improving the level of reporting is to develop a clear and concise reporting format, perhaps in the style of a questionnaire, providing information that can be readily summarized, evaluated and used as an index of Convention and Protocol performance.*

10.4 In discussion, it was noted that:

- .1 this thorough report and the conclusions and recommendations it contained merited careful consideration in the future;
- .2 the Scientific Groups had reviewed the same reports and had, generally, supported the recommendations that:
 - .1 Contracting Parties should be invited to **reaffirm** the requirement to report on field monitoring under LC Article VI(4) and LP Article 9.4.1, respectively;
 - .2 a review of the requirements for reporting on field monitoring activities should be included in the Future Work Programme of the Scientific Groups, taking into account the findings of this study and the directions given in the analysis on the monitoring information to be provided and on the choice between simplicity vs. detailing of the monitoring reporting requirements;
 - .3 Contracting Parties should give greater attention in their reports of field surveys to contrasting findings with the objectives, impact hypotheses and predictions set down at the start of the surveys;
 - .4 copies of national policies, guidelines, or criteria for monitoring and assessment of disposal operations should be deposited with the Secretariat; and
 - .5 existing guidelines in regional agreements for the protection of the marine environment on the conduct of field monitoring activities should be taken into account (LC 32/WP.1, paragraph 3.38);
- .3 although implementation of the recommendations in the report may help to improve the rate of reporting by Parties, the submission of detailed field monitoring reports should not be discouraged, as such reports received in the past had been informative and assisted Parties in their monitoring efforts; and
- .4 links could be created to give better access to field monitoring reports available at Parties' websites.

10.5 The governing bodies also noted the findings of the Compliance Group on the same report, in particular its observations that:

- .1 many Parties appear to regard the requirement to report information on monitoring as a *voluntary* one;
- .2 a lack of comprehension of obligations for reporting could be another reason why a Party might not report, and that this issue had been addressed in document LP-CG 3/7;
- .3 LP Article 9.4.1 created a clear mandatory obligation to report on monitoring as per LP Article 9.1.3 and that it would be advisable to **reaffirm** this requirement; and
- .4 the Compliance Group was willing to help with the future work in this area identified by the consultant, and supported by the SGs, if approved by the governing bodies (LC 32/WP.2, paragraph 6.15).

ACTION BY THE GOVERNING BODIES

10.6 **The governing bodies noted that the findings of both the Scientific Groups and the Compliance Group pointed in the same direction, essentially addressed the reporting deficiencies both under the London Convention and Protocol and accepted these in general. It was 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.**

10.7 In light of the above decisions, the governing bodies agreed that it would be too early to inform the UN Regular Process, as established by the UN General Assembly at its 64th session in the fall of 2009, on the achievements in this regard.

10.8 The governing bodies thanked Mr. Boelens for his excellent report and all Parties that had provided information.

OTHER MONITORING ACTIVITIES CARRIED OUT FOR THE PURPOSES OF THE LONDON CONVENTION AND PROTOCOL

10.9 The governing bodies:

- .1 noted that no reports on monitoring activities had been submitted;
- .2 noted that several of the field monitoring reports submitted to the cancelled April 2010 session of the Scientific Groups would now be discussed at their next session in April 2011; and
- .3 encouraged Contracting Parties to submit reports on their monitoring activities to future sessions.

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 considered several reports on outreach activities in the form of focussed National or Regional Workshops that were held

to promote the London Protocol, mostly co-organized by Parties and the Secretariat. Other "outreach" activities were reported by Contracting Parties, international organizations, the Chairman and Vice-Chairmen and the Secretariat in their role as "ambassadors" to promote the London Protocol, to explain what it is and why it is important. Additionally, several Contracting Parties agreed to serve as focal points for promoting the London Protocol in a regional context and it is customary to invite these Parties to report on such activities under this agenda item. Outreach remains a key element of the Technical Co-operation Strategy and of the Convention and Protocol contacts with other organizations in the field of marine environmental protection.

11.2 The delegation of Spain informed the Meetings about their efforts to promote the London Protocol in a number of meetings held under the auspices of the Barcelona Convention and the OSPAR Convention, respectively. The Meetings noted that the OSPAR Ministerial Meeting, which had been held on 23 and 24 September 2010, in Bergen (Norway), had adopted a communiqué that took into account issues being considered by the LC/LP, including dumping, geo-engineering and carbon capture and sequestration in sub-seabed geological formations. The Meetings also noted that the Quality Status Report 2010 (<http://qsr2010.ospar.org/en/index.html>), which included references to human activities such as dumping at sea, had been approved. The Meetings further noted that there were only two OSPAR Parties that were not a Party to the London Protocol (Finland and Portugal).

11.3 With regard to the Barcelona Convention, the delegation of Spain indicated that the 16th Conference of Parties had been held in Marrakesh, Morocco from 3 to 5 November 2009. This Meeting encouraged Parties to accede to the London Protocol and the Barcelona Dumping Protocol, and also noted that a number of joint activities were underway to assist countries that wished to accede to these dumping Protocols and on technical matters. In this regard a workshop is being planned in Turkey on technical matters.

11.4 The delegation of Denmark reported that the HELCOM Ministerial Meeting, which had been held from 18 to 20 May 2010 in Moscow, Russian Federation, had initiated full-scale efforts for the recovery of the Baltic marine environment suffering from excessive inputs of pollution from the coastal countries and activities at sea. The HELCOM Ministerial Declaration had been adopted aiming, *inter alia*, to address the need to strictly control the dredging and disposal of sediments when revising the HELCOM Guidelines for disposal of dredged spoils, and so avoid that substantial amounts of hazardous substances are re-suspended from bottom sediments (containing organotin, mercury and cadmium compounds, as well as other heavy metals and poly-aromatic compounds). Further information on this Declaration and outcomes of the HELCOM Meeting can be found at: http://www.helcom.fi/MinisterialMeeting2010/en_GB/front/.

11.5 The delegation of Canada informed the Meetings that the Arctic Council Working Group for the Protection of the Arctic Marine Environment (PAME) held a working group meeting on 14-16 September, 2010 in Washington, DC (United States) which was preceded by an Arctic Ocean Review (AOR) Workshop held on 13-14 September, 2010. The Meetings noted that participation in both the AOR Workshop and the PAME working group had been exceptional with strong representation from all eight Member States, Aboriginal organizations, observer states, and a number of observer organizations. The AOR Workshop was widely considered a success, with approximately 50 participants from a variety of fields of expertise (e.g., scientists, lawyers, indigenous peoples) providing comments and suggestions for the draft Phase I AOR Report. The focus of the PAME meeting was to identify the status and timelines on activities and projects for the 2011 Arctic Ministerial Meeting including: follow-up to Arctic Marine Shipping Assessment (AMSA)

recommendations, the AOR Phase I draft report, oil and gas assessment follow-up, and next steps for the Ecosystem Approach project.

11.6 The delegation of the United States informed the Meetings that it had worked with the Secretariat of the UNEP Caribbean Environment Programme (CEP) of the Cartagena Convention to organize a Workshop for all countries in the Wider Caribbean Region. This was held in Panama City (Panama) in May 2010 and included a focus on the promotion of the London Protocol in the Region (refer also to paragraph 11.7.4 below). The event included a practical session on the Wider Caribbean Special Area under MARPOL Annex V, which would come into effect on 1 May 2011.

11.7 The Secretariat, in introducing document LC 32/7 entitled "Key outreach activities held under the 'Barriers to Compliance' project", informed the Meetings that several outreach activities had been carried out or concluded as part of the project since October 2009, namely:

- .1 a needs assessment mission to Turkey, that was conducted from 16 to 19 November 2009 and was supported by Belgium (Mrs. Brigitte Lauwaert) and a representative from Turkey (Mr. Murat Sinan Basaran);
- .2 a technical meeting for counter-piracy coordination mechanisms and strategies to fight piracy off the coast of Somalia that was held in Djibouti from 3 to 5 February 2010 and was organized by IMO in close collaboration with the United Nations Political Office for Somalia (UNPOS);
- .3 a National Workshop on the London Protocol which was held from 16 to 19 February 2010, in Manila (Philippines), and hosted by the Philippines Coast Guard; and
- .4 the Regional Workshop on the London Convention and Protocol held in Panama City (Panama) from 26 to 27 May 2010.

11.8 The Meetings also noted that at the invitation of the Ports and Maritime Organization in Iran, a one-day Workshop raising the awareness of the London Protocol would be held in Tehran on 30 November 2010 "en marge" of the "Ninth International Conference on Coasts, Ports & Marine Structures", which Iran is also hosting. Iran is a party to the London Convention since 1997 and has, on several occasions, indicated its interest in acceding to the London Protocol.

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

- .1 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 fora and report back on the results to the next Meetings; and**
- .2 underlined that this element of the TC strategy is working and that National and Regional Workshops should continue to be held with clear commitments and objectives.**

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

11.10 The Meetings noted that the Secretariat had endeavoured to increase awareness of the London Convention and Protocol, and to assist in administrative and technical matters by developing more LC/LP publications. While a number of documents had been published recently and can be purchased from the IMO Publishing Service, several proposed documents were progressing, as follows:

- .1 A "How to do it Manual" for the London Protocol aimed for completion in 2012. This proposal had been overwhelmingly supported by the Scientific Groups (LC 32/WP.1, paragraphs 3.34 to 3.36);
- .2 An overview of the LC/LP materials on CO₂ Sequestration in Subsea-bed Geological Formations, prepared since 2006. The completion of this overview was aimed for 2012; and
- .3 An updated multi-lingual publication containing the texts of the London Convention and Protocol, aimed for completion in 2011.

11.11 The governing bodies thanked the Secretariat and invited it to continue its work on the publications as planned.

REVIEW OF THE LONDON CONVENTION AND PROTOCOL WEBSITE

11.12 The Secretariat informed the Meetings that a new version of the IMO website would be introduced this year, and as a consequence the LP and LC pages would undergo a facelift. An additional positive change was that all IMO documents would be made available without the use of passwords and the Secretariat would, therefore, no longer be placing LC/LP documents on the LC/LP pages.

11.13 As a consequence of the move to the IMO web-name, the old www.londonconvention.org web-name would disappear next year. All web pages will be accessible soon at www.londonprotocol.imo.org. The choice of this name was discussed in the Bureau and was also in line with the decision to emphasize the pre-eminence of the London Protocol. The existing web-address would redirect all visitors to the new pages until June 2011 however delegations were advised to update links or bookmarks accordingly.

11.14 The Meetings also noted that the Secretariat would work with the IMO-IT Services to develop password protected, online entry, of dumping permits and amounts. This hopefully would also include a link to the database that Belgium has been developing over recent years.

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

REVIEW OF PROGRESS WITH COLLABORATIVE ARRANGEMENTS

11.16 The Secretariat informed the Meetings that a new 3-year collaborative agreement was signed in May 2010 with the International Ocean Institute (IOI) providing for the continuation of the arrangements that were in place since 2006. The scope and activities of co-operation with IOI had not changed. Good co-operation had continued with UNEP, based on the partnership agreement of 2006. The Meetings noted that the Secretariat had not had

sufficient time, for several years now, to develop any new partnerships with FAO or UNESCO-IOC. It was envisaged that co-operation agreements would only be concluded with UNESCO-IOC, FAO and UNEP-CBD if both sides agree there was a need to do so, for instance, when joint activities implied a transfer of funds.

11.17 In conclusion, the governing bodies instructed the Secretariat to continue these activities and report back on partnership achievements to the next session.

12 ADMINISTRATIVE ARRANGEMENTS AND FUTURE WORK

REVIEW OF THE JOINT LONG-TERM PROGRAMME FOR THE PERIOD 2011 TO 2013

12.1 It was recalled that in 2008 the governing bodies agreed that a merged Joint Long-term Programme (JLTP) be prepared that contained the work of the LC/P and its subsidiary bodies. This would be updated directly after the session of the governing bodies at the end of each year and would serve as a reference document at the start of the new meetings season. In January 2010, the Secretariat distributed LC-LP.1/Circ.32 containing the merged activities of the LC/P and its subsidiary bodies for 2010 to 2012. It contained, 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 2010 to 2012 (appendix I of LC-LP.1/Circ.32), instructed the Secretariat to update the JLTP for the period 2011-2013, in the light of achievements this week, for distribution in all three working languages and for posting on the London Convention and Protocol website.

JOINT WORK PROGRAMME OF THE SCIENTIFIC GROUPS

12.3 The Chairman of the Scientific Groups informed the Meetings about the Joint Work Programme of the Scientific Groups as shown in their report (LC 32/WP.1, annex 5) and highlighted that ocean fertilization would remain a high-priority issue (see chapter 4 of this report), while other issues would remain as proposed by the Scientific Groups. He also informed the Meetings that given that the Scientific Groups did not hold a "Science Day" session in 2010, the current topic and the topic for the subsequent year, as agreed by the governing bodies last year, were still valid. The Meetings also noted that the issue of marine litter was also recommended as a topic for a future Science Day.

12.4 The governing bodies endorsed:

- .1 the recommendation of the Scientific Groups that the "Science Day 2011" topic would be "Methodologies for monitoring of CO₂ in the oceans" and, for 2012, "Application of integrated approaches to marine management"; and**
- .2 the Joint Work Programme of the Scientific Groups, as amended, and as shown in annex 12 to this report.**

BUDGET AND FINANCIAL ACCOUNT FOR THE ADMINISTRATION OF THE PROTOCOL (LP)

12.5 It was recalled that one of the Secretariat duties defined in the London Protocol is to: "prepare, every two years, a budget and a financial account of this Protocol which shall be distributed to all Contracting Parties" (Article 19.2.6).

12.6 The Secretary informed the Meetings that document LC 32/12 presented the IMO budget for LC/LP Secretariat duties in the period 2010 to 2011 and the actual costs for 2008 and 2009. It was recalled that IMO only provides the administrative support costs, as specified in the notes in the annex to the document. The Meetings noted that this was the first time that budgeted expenditures with actual expenditures could be compared.

12.7 The Meetings also noted that:

- .1 the **actual** expenditures for **2008** (£784,509) were in line with the **budgeted** expenditures for that year (£785,100); and
- .2 the **actual** expenditures for **2009** (£900,185) were 8.53% higher than the **budgeted** expenditures for that year (£829,430).

12.8 The Meetings further noted that in 2008, the Secretariat had prepared an analysis linking the activities in the Joint Long-term Programme with possible budgetary implications (LC 30/13/2). A summary of that analysis, projected to today's circumstances is found in chapter 2 of document LC 32/12. In 2008, the Meeting of Contracting Parties concluded that it had no specific requests to IMO to perform additional functions or duties for the administration of the London Protocol (LC 30/16, paragraph 13.3).

12.9 **After discussion, the Meeting of Contracting Parties:**

- .1 concluded that, at this stage, it had no specific requests to IMO to perform additional functions or duties for the administration of the London Protocol;**
- .2 thanked IMO for the continued support it provided for the administration of the London Convention and Protocol; and**
- .3 requested the Secretariat to convey this message to the 105th session of the IMO Council, which will be held in the first week of November 2010¹⁴.**

REPORT ON THE LC-LP TRUST FUND FOR TECHNICAL CO-OPERATION ACTIVITIES

12.10 It was recalled that on 1 December 2009 the Secretary-General of IMO established, at the request of the governing bodies, the voluntary London Convention and Protocol Technical Co-operation Trust Fund that would be used to collect and administer funds approved by the governing bodies for that purpose. The LC/LP National Focal Points were informed of this arrangement on 19 January 2010 under Circular LC-LP.1/Circ.33.

12.11 The Secretariat informed the Meetings that currently two grants were being administered through the Trust Fund, as follows:

- .1 an extension of the 2008 grant from the US Department of State for \$74,250 destined for projects under the "Barriers to Compliance (B2C) Project in 2011; and

¹⁴ See document C105/9, paragraph 14.

- .2 Norway's grant of \$22,700 to invite delegates from developing countries to take part in the meetings this week. This grant had made it possible for delegates from Ecuador, Uruguay and the Philippines to attend this session.

12.12 The Meetings noted that any new funds would be administered through the Trust Fund, while unspent funds provided in the past would be administered under previous arrangements. The Meetings also noted that the audited IMO financial statement on income and expenditures of the Trust Fund's first year of operation would become available in April 2011.

12.13 In conclusion, the governing bodies:

- .1 thanked both the governments of Norway and the United States for the support they have provided; and
- .2 requested the Secretariat to report in 2011 both on the audited statement for the 2010 incomes and expenditures and on an informal projection for the activities administered under the Trust Fund in 2011.

SUBSTANTIVE ITEMS FOR THE AGENDA AND DATES FOR THE NEXT MEETINGS

12.14 The Meetings reviewed the list of substantive items for the 33rd Consultative Meeting and the 6th Meeting of Contracting Parties, as set out in document LC 32/WP.6, and regarded the indents listed under each substantive item as early annotations, and priorities for action, at those Meetings.

12.15 The Meetings adopted the "List of substantive items agreed for inclusion in the agenda for the 33rd Consultative Meeting and the 6th Meeting of Contracting Parties", as shown in annex 13 to this report. Contracting Parties were invited to prepare submissions on the priority items contained therein.

12.16 **The governing bodies:**

- .1 agreed the dates for the 2011 sessions to be held under the London Convention and Protocol, as shown below; and**
- .2 instructed the Secretariat to inform the IMO Council accordingly;**
- .3 thanked Canada for their generous offer to host the intersessional meeting of the Working Group on Ocean Fertilization, in Montreal, Canada, to be held in the first or second week of June 2011;**
- .4 thanked the Republic of Korea for their generous offer to host the 2012 session of the Scientific Groups in Korea, in combination with an Asia Pacific Regional LC/LP Workshop to be held in the week prior to the Groups meeting; and**
- .5 thanked the United States for their generous offer to host the 2014 session of the Scientific Groups in the United States, possibly in combination with an LC/LP Workshop.**

MEETING:	LOCATION:	DATE:
34 th meeting of the LC Scientific Group & 5 th meeting of the LP Scientific Group	IMO Headquarters	11 to 15 April 2011
Intersessional Working Group on Ocean Fertilization	Montreal, Canada	1 st or 2 nd week of June, 2011 – dates to be confirmed
33 rd Consultative Meeting & 6 th Meeting of Contracting Parties	IMO Headquarters	17 to 21 October 2011
4 th session of the LP Compliance Group	IMO Headquarters	17 to 19 October 2011

13 ANY OTHER BUSINESS

DISCUSSION OF THE PROPOSAL ON THE "TRANSITIONAL PERIOD"

13.1 The Secretariat introduced document LC 32/13 and highlighted that the "transitional period" provision under Article 26 of the London Protocol, which assists new Parties towards gradually achieving full compliance with the Protocol over a period of up to 5 years (conditions apply) would, officially come to an end on 24 March 2011. The Meetings were invited to consider whether or not to extend this facility for another period or to non-Parties who request it, through a mechanism yet to be determined.

13.2 The Meetings noted that since the adoption of the Protocol in 1996 no State had used the "transitional period" provision, nor the provision under Article 13.2.3 of the Protocol regarding technical co-operation and assistance in this regard. It was also noted that since the "Barriers to Compliance (B2C)" Project was in operation, and since the benefits of the Protocol above those of the Convention were being promoted more clearly in recent years, several States indicated making efforts to join the Protocol. It is noteworthy that at a number of recent Regional Workshops, the "transitional period" provision had been a topic of much interest.

13.3 Following a brief discussion, the governing bodies encouraged prospective Contracting Parties that seek assistance with regard to compliance issues to do so through the "Barriers to Compliance (B2C) Project", as well as by using the advice facility offered by the LP Compliance Group.

FAREWELL MESSAGES

13.4 Following the announcement by Mr. Kjeld Frank Jørgensen (Denmark) that these were the last LC/LP meetings he attended after more than 20 years of involvement, the Meetings thanked him for the many contributions he had made over the years and wished him well for the future.

13.5 Mr. Miguel Palomares, the Director of the Marine Environment Division, noted that because of René Coenen's retirement in August 2011 as Head of the Office for the London Convention and Protocol, this would be his last session of the governing bodies. The Meetings also noted that during his 18 years of dedicated service to IMO and the London Convention and Protocol, Mr. Coenen had contributed to a broad range of issues aimed at protecting the marine environment, in particular, supporting the preparation and implementation of the London Protocol, acting as IMO Technical Secretary to GESAMP

since 2000, as Secretary to the Ballast Water Working Group in the lead up to the adoption of the IMO Ballast Water Management Convention (2004), and as Secretary to several MEPC working and drafting groups, including those leading to amendments to the MARPOL Convention. The meetings praised Mr. Coenen and wished him well for the future.

13.6 The Meetings thanked the outgoing First Vice-Chairman, Mr. Matthew Johnston (Australia), for the valuable and pragmatic contributions he had made to the LC/LP proceedings, both intersessionally and during the Meetings, since his election in 2008.

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 Ms. Chen Yue (China) as Chairman and elected Mr. Tara Ross-Watt (New Zealand) and Mr. Ali Akbar Marzban (Islamic Republic of Iran) as 1st and 2nd Vice-Chairman, respectively, for the intersessional period and for the 33rd Consultative Meeting.

14.2 In accordance with Rule 20 of the Revised Rules of Procedure, the Meeting of Contracting Parties also unanimously re-elected Ms. Chen Yue (China) as Chairman and elected Mr. Tara Ross-Watt (New Zealand) and Mr. Ali Akbar Marzban (Islamic Republic of Iran) as 1st and 2nd Vice-Chairman, respectively, for the intersessional period and for the 6th Meeting of Contracting Parties.

15 CONSIDERATION AND ADOPTION OF THE REPORT

15.1 The joint report of the 32nd Consultative Meeting of Contracting Parties to the London Convention and the 5th Meeting of Contracting Parties to the London Protocol was adopted on the final day of the Meetings, Friday, 15 October 2010.

ANNEX 1

**AGENDA FOR THE 32ND CONSULTATIVE MEETING AND THE 5TH MEETING OF
CONTRACTING PARTIES**

1 Adoption of the agenda

- LC 32/1 Secretariat: Provisional Agenda
- LC 32/1/1 Secretariat: Annotations to the Provisional Agenda and Draft Timetable
- LC 32/INF.5 Secretary-General: Opening address delivered by Mr. Miguel Palomares, Director, Marine Environment Division

2 Status of the London Convention and Protocol

- LC 32/2 Secretary-General: Report of the Secretary-General on the status of the London Convention 1972
- LC 32/2/1 Secretary-General: Report of the Secretary-General on the status of the 1996 Protocol to the London Convention 1972

3 Consideration of the Report of the Scientific Groups

- LC 32/WP.1 Report of the extraordinary session of the Scientific Groups

4 Ocean fertilization

- LC 32/4 Chairman of the Scientific Groups: Marine Geo-engineering – Types of Schemes Proposed to Date
- LC 32/4/1 Canada: Discussion of an Additional Option to Achieve the Regulation of Legitimate Scientific Research Involving Ocean Fertilization under the London Protocol
- LC 32/INF.2 IUCN: Geo-engineering, the Law of the Sea and Climate Change
- LC 32/INF.4 Chairman of the Scientific Groups: Asilomar Conference on Climate Intervention Technologies: Minimizing the Potential Risk of Research to Counter-balance Climate Change and its Impacts
- LC 32/WP.3 Report of the Drafting Group on Ocean Fertilization
- LC 32/WP.4 Report of the Drafting Group on the Review of the Assessment Framework

5 CO₂ sequestration in sub-seabed geological formations (LP):

LC 32/5 Secretariat: Proposed work plan for the Scientific Groups to review the CO₂ Sequestration Guidelines

6 Compliance issues:

LC 32/6 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/32/INF.3 Secretariat: Final draft summary report on dumping permits issued in 2007

LC 32/WP.2 Report of the 3rd meeting of the Compliance Group under the London Protocol

7 Technical co-operation and assistance

LC 32/7 Secretariat: Report on key outreach activities held under the "Barriers to Compliance" project

LC 32/7/1 Chairman of the B2C Compliance Steering Group: Draft follow-up evaluation questionnaire for regional or national workshops on ocean dumping issues

LC 32/7/2 Secretariat: "Barriers to Compliance" (B2C) Project – Implementation Plan, Progress Report 2008-2009

8 Interpretation of the London Convention and Protocol

LC 32/8 Secretariat: Relationship of the London Convention and Protocol with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

LC 32/8/1 United States: Proposal for Circulation of a Questionnaire on Disposal of Spoilt Cargo at Sea

9 Matters related to the management of radioactive wastes

No documents submitted under this agenda item

10 Monitoring for the purposes of the London Convention and Protocol

LC 32/10 Secretariat: Extracts from the report, "Review of reported field monitoring activities under the London Convention and Protocol and development of an LC/LP monitoring database"

11 Outreach to prospective new Contracting Parties to the Protocol and relations with other organizations in the field of marine environment protection

No documents submitted under this agenda item

12 Administrative arrangements and future work

LC 32/12 Secretariat: Preliminary report on the LC-LP TC Trust fund

LC 32/WP.6 Chairman: Draft list of substantive items

13 Any other business

LC 32/13 Secretariat: "Transitional Period" under the London Protocol (Article 26)

14 Election of Officers for both governing bodies

No documents submitted under this agenda item

15 Consideration and adoption of the report

LC 32/15 Secretariat: Report of the 32nd Consultative Meeting and the 5th Meeting of Contracting Parties

LC 32/INF.1 List of Participants

LC 32/WP.5 Secretariat: Draft Report of the 32nd Consultative Meeting and the 5th Meeting of Contracting Parties

ANNEX 2

REVISED SPECIFIC GUIDELINES FOR ASSESSMENT OF BULKY ITEMS

1 INTRODUCTION

1.1 The Revised Guidelines for the Assessment of Wastes or Other Matter that May be Considered for Dumping¹⁵, referred to in short as the "Generic Guidelines", as well as the **Specific Guidelines for Assessment of Bulky items**¹⁶ 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 1996. Annex 2 to the London Protocol places emphasis on progressively reducing the need to use the sea for dumping of wastes. 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 in relation to assessments of impacts on the marine environment will need to be considered and a precautionary approach applied in addressing these uncertainties. They should be applied with a view that acceptance of dumping under certain circumstances does not remove the obligation to make further attempts to reduce the necessity for dumping.

1.2 The London Protocol follows an approach under which dumping 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 prohibits the dumping of certain wastes or other matter specified therein and in the context of that Convention these Guidelines meet the requirements of its Annexes for wastes not prohibited for dumping at sea. When applying these Guidelines under the London Convention, they should not be viewed as a tool for the reconsideration of dumping of wastes or other matter in contravention of Annex I to the London Convention.

1.3 The schematic shown in Figure 1 provides a clear indication of the stages in the application of the Guidelines where important decisions should be made and is not designed as a conventional "decision tree". In general, national authorities should use the schematic in an iterative manner ensuring that all steps receive consideration before a decision is made to issue a permit. The national authority should strive to update knowledge in science and technology related to each stage of the application of the Guidelines according to its national scientific, technical and economic capabilities, bearing in mind the rapid advancement in relevant science and technology. Figure 1 illustrates the relationship between the operational components of Annex 2 to the London Protocol and contains the following elements:

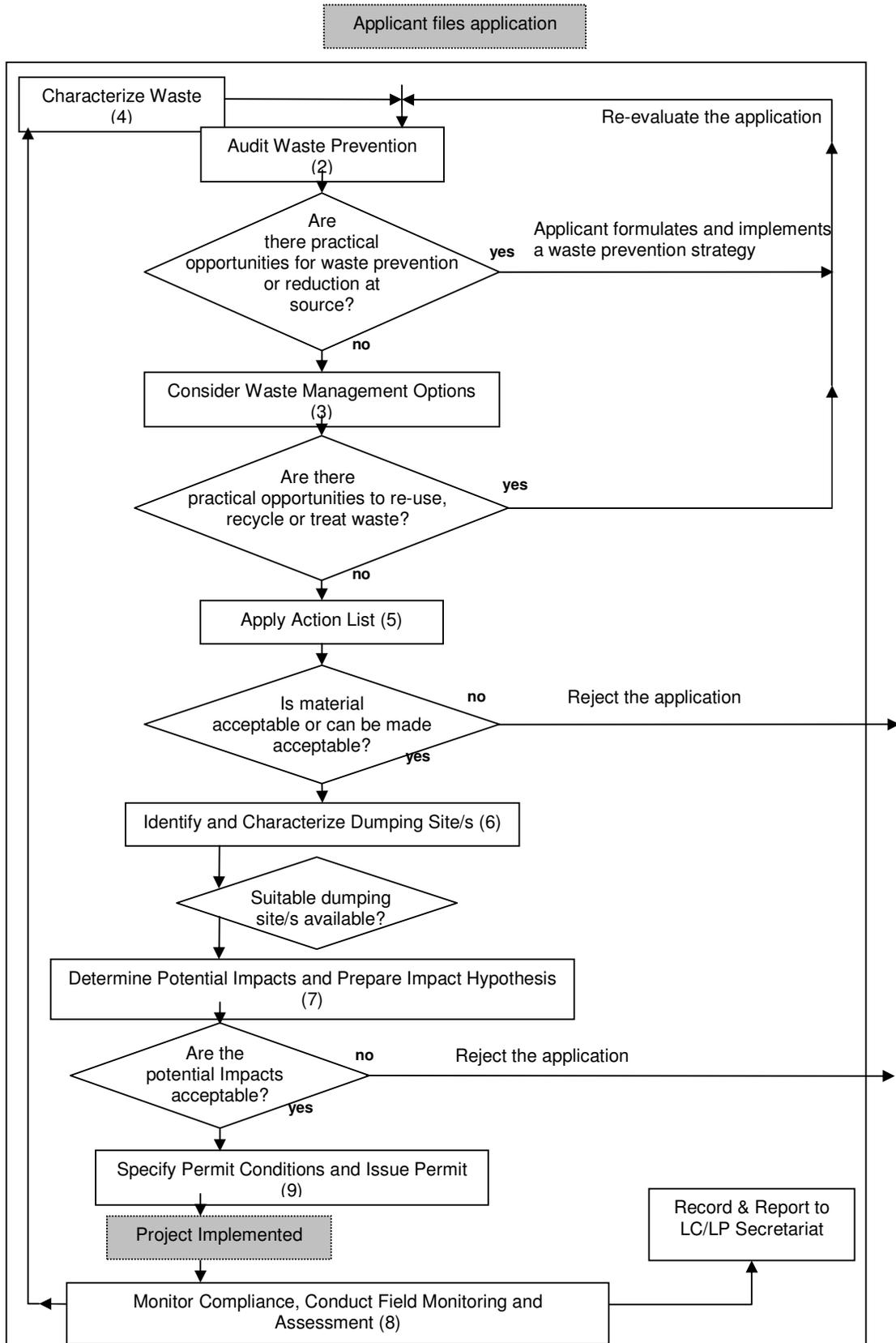
- .1 Waste Characterization (Section 4) (Chemical, Physical and Biological Properties)

¹⁵ The first version of the Generic Guidelines was adopted in 1997 and their revision was completed by the governing bodies under the London Convention and London Protocol in 2008. The revised schematic diagram (Figure 1) was adopted in 2009.

¹⁶ Bulky items: primarily comprising iron, steel, concrete and similarly unharmed materials for which the concern is physical impact, and limited to those circumstances where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping (Article 1.7 of annex 1 to the London Protocol).

- .2 Waste Prevention Audit and Waste Management Options (Sections 2 and 3)
- .3 Action List (Section 5)
- .4 Identify and Characterize Dump-site (Section 6) (Dump-site Selection)
- .5 Determine Potential Impacts and Prepare Impact Hypothesis(es) (Section 7) (Assessment of Potential Effects)
- .6 Issue Permit (Section 9) (Permit and Permit Conditions)
- .7 Implement Project and Monitor Compliance (Section 8) (Monitoring)
- .8 Field Monitoring and Assessment (Section 8) (Monitoring).

Figure 1



1.4 These Guidelines are specific to bulky items primarily comprising iron, steel, concrete and similarly non-harmful materials for which the concern is physical impact, and limited to those circumstances where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping¹⁷. Adherence to the following represents neither a more restrictive nor a less restrictive regime than that of the Revised Generic Guidelines.

2 WASTE PREVENTION AUDIT

2.1 The initial stages in assessing alternatives to dumping should, as appropriate, include an evaluation of:

- .1 types, amounts and relative hazards of wastes generated;
- .2 details of the production process and the sources of wastes within that process; and
- .3 feasibility of the following waste reduction/prevention techniques:
 - 2.1.3.1 product reformulation;
 - 2.1.3.2 clean production technologies;
 - 2.1.3.3 process modification;
 - 2.1.3.4 input substitution; and
 - 2.1.3.5 on-site, closed-loop recycling.

The techniques mentioned in paragraph 2.1.3 do not imply that wastes or other matter prohibited from disposal under the London Convention and London Protocol could, after application of these techniques, then be considered for dumping at sea.

2.2 In general terms, if the required 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.

2.3 For this category of material waste minimization will be one of the most pertinent issues.

3 CONSIDERATION OF WASTE MANAGEMENT OPTIONS

3.1 Applications to dump wastes or other matter shall demonstrate that appropriate consideration has been given to the following hierarchy of waste management options, which implies an order of increasing environmental impact:

- .1 re-use, including return to supplier, disassembly and use of components;

¹⁷ The first version of these specific Guidelines was adopted in 2000 and their revision was completed by the governing bodies under the London Convention and Protocol in 2010.

- .2 off-site recycling;
- .3 treatment to reduce or remove the hazardous constituents. For wastes addressed in these Guidelines cleaning and preparation should include: removal of contaminants including lubricants, floatable materials, and soluble matter; cleaning of all surfaces, verification of cleanliness; and proper disposal of wastes including disposal of cleaning agents and residues. Consideration should also be given to reduction of bulk; and
- .4 disposal on land, and into water.

3.2 A permit to dump wastes or other matter shall be refused if the permitting authority determines that appropriate opportunities exist to re-use, recycle or treat the waste without undue risks to human health or the environment or disproportionate costs. 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, taking into account the general obligation to apply a precautionary approach to dumping and the objective of protecting the marine environment from all sources of pollution.

4 CHEMICAL, PHYSICAL AND BIOLOGICAL PROPERTIES

4.1 Materials to be considered under this category will be bulky items for which the concern is physical impact. The specific gravity of such materials should exceed 1.2 when allowance for the ingress of water into internal and void spaces has been made to ensure that the material reaches the sea floor relatively rapidly.

4.2 The basis on which the material is characterized as bulky items primarily comprising iron, steel, etc., should be specified. If a waste is so poorly characterized that proper assessment cannot be made of its potential impacts on human health and the environment, that waste shall not be dumped.

4.3 Characterization of material should take into account the composition of the waste, its structural form and the possibility of reaction with seawater.

5 ACTION LIST

5.1 The Action List provides a screening mechanism for determining whether a material is considered acceptable for dumping. It constitutes a crucial part of Annex 2 to the London Protocol and the Scientific Groups will continuously review all aspects of it to assist Contracting Parties with its application. It may also be used in meeting the requirements of Annexes I and II to the London Convention. However, as bulky items will interact with biological systems primarily through physical processes, Action Lists do not require detailed consideration.

6 DUMP-SITE SELECTION

Site selection considerations

6.1 Proper selection of a dump-site at sea for the reception of waste is of paramount importance.

6.2 Information required to select a dump-site shall include:

- .1 physical 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; and
- .3 economic and operational feasibility.

6.3 Guidance for procedures to be followed in dump-site selection can be found in a report of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP Reports and Studies No. 16 – Scientific Criteria for the Selection of Waste Disposal Sites at Sea). Prior to selecting a dump-site, it is essential that data be 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. Only those biological features relevant to physical effects, e.g., benthic sediment transport, require detailed consideration.

6.4 Some of the important amenities, biological features and uses of the sea to be considered in determining the specific location of the dump-site are:

- .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;
- .4 fishing areas;
- .5 spawning, nursery and recruitment areas;
- .6 migration routes;
- .7 seasonal and critical habitats;
- .8 shipping lanes;
- .9 military exclusion zones; and
- .10 engineering uses of the seafloor, including mining, undersea cables, desalination or energy conversion sites.

Size of the dump-site

6.5 Size of the dump-site is an important consideration for the following reasons:

- .1 it should be large enough to have the bulk of the material remain either within the site limits or within a predicted area of impact after dumping;
- .2 it should be large enough in relation to anticipated volumes for dumping so that it would serve its function for many years; and
- .3 it should not be so large that monitoring would require undue expenditure of time and money.

Site capacity

6.6 In order to assess the capacity of a site, especially for solid wastes, the following should be taken into consideration:

- .1 the anticipated loading rates per day, week, month or year;
- .2 whether or not the material will remain within the site; and
- .3 the allowable reduction in water depth over the site because of mounding of material.

Evaluation of potential impacts

(Note: After appropriate cleaning and preparation of the bulky items under consideration, the main potential impacts of concern in relation to paragraphs 6.7 to 6.13 below are physical impacts.)

6.7 An important consideration in determining the suitability of a waste for dumping at a specific site is the degree to which this results in increased exposures of organisms to substances that may cause adverse effects. Where appropriate, ambient water quality standards/guidelines as established by national authorities provide useful benchmarks to make judgements about acceptable perturbations of water quality resulting from disposal activities.

6.8 The physical impacts of many of the wastes permitted to be disposed of at sea can be significant and may be dominant for bulky items. While physical impacts within a disposal site may be acceptable, permitting authorities will usually seek to minimize or prevent physical impacts outside the boundaries of disposal sites. Where appropriate, attention needs to be paid to the degree to which deposition of and subsequent transport of material outside the disposal site may result in physical effects on marine benthos (e.g., smothering, changes in benthos diversity, habitat modification), on sediment transport fluxes and processes and on other uses of the sea such as those listed in paragraph 6.4 above.

6.9 The extent of adverse effects of a substance is a function of the exposures of organisms (including humans). 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 The presence of natural substances and the ubiquitous occurrence of contaminants means that there will always be some pre-existing exposures of organisms to all substances contained in any waste that might be dumped. Concerns about exposures to hazardous substances thus relate to additional exposures as a consequence of dumping. This, in turn, can be translated back to the relative magnitude of the input fluxes of substances from dumping compared with existing input fluxes from other sources.

6.11 Accordingly, due consideration needs to be given to the relative magnitude of the substance fluxes associated with dumping in the local and regional area surrounding the dump-site. In cases where it is predicted that dumping will substantially augment existing fluxes associated with natural processes, dumping at the site under consideration should be deemed inadvisable.

6.12 In the case of synthetic substances, the relationship between fluxes associated with dumping and pre-existing fluxes in the vicinity of the site may not provide a suitable basis for decisions.

6.13 Temporal characteristics should be considered to identify potentially critical times of the year (e.g., for marine life) when dumping should not take place. This consideration leaves periods when it is expected that dumping operations will have less impact than at other times. If these restrictions become too burdensome and costly, there should be some opportunity for compromise in which priorities may have to be established concerning species to be left wholly undisturbed. Examples of such biological considerations are:

- .1 periods when marine organisms are migrating from one part of the ecosystem to another (e.g., from an estuary to open sea or vice versa) and growing and breeding periods;
- .2 periods when marine organisms are hibernating on or are buried in the sediments; and
- .3 periods when particularly sensitive and possibly endangered species are exposed.

Contaminant mobility

6.14 Contaminant mobility is dependent upon several factors, among which are:

- .1 type of matrix;
- .2 form of contaminant;
- .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; and
- .7 biological activities, e.g., bioturbation.

7 ASSESSMENT OF POTENTIAL EFFECTS

7.1 Assessment of potential effects should lead to a concise statement of the expected consequences of the sea or land disposal options, i.e. the "Impact Hypothesis". It provides a basis for deciding whether to approve or reject the proposed disposal option and for defining environmental monitoring requirements. As far as possible, waste management options causing dispersion and dilution of contaminants in the environment should be avoided and preference given to techniques that prevent the input of the contaminants to the environment.

7.2 The assessment for dumping should integrate information on waste characteristics, conditions at the proposed dump-site(s), fluxes and proposed disposal techniques and specify the potential effects on human health, living resources, amenities and other legitimate uses of the sea. It should define the nature, temporal and spatial scales and duration of expected impacts based on reasonably conservative assumptions.

7.3 The assessment should be as comprehensive as possible. The primary potential impacts should be identified during the dump-site selection process. These are considered to pose the most serious threats to human health and the environment. Alterations to the physical environment, risks to human health, devaluation of marine resources and interference with other legitimate uses of the sea are often seen as primary concerns in this regard. Additionally, long-term and indirect potential impacts should, as appropriate, be assessed and addressed in permitting and monitoring requirements.

7.4 In constructing an impact hypothesis, particular attention should be given to, but not limited to, potential impacts on amenities, 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. Consideration should be given to risk of bulky items not sinking as intended.

7.5 Even the least complex and most innocuous wastes may have a variety of physical, chemical and biological effects. Impact hypotheses cannot attempt to reflect them all. It must be recognized that even the most comprehensive impact hypotheses may not address all possible scenarios such as 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 review the adequacy of management measures applied to the dumping operation and at the dump-site. It is important to identify the sources and consequences of uncertainty.

7.6 The expected consequences of dumping should be described in terms of affected habitats, processes, species, communities and uses. 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.

7.7 Emphasis should be placed on biological effects and habitat modification as well as physical and chemical change. The following factors should be addressed:

- .1 physical changes and physical effects on biota; and
- .2 effects on sediment transport.

7.8 In the case of repeated or multiple dumping 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 dumping practices in the area, both existing or planned.

7.9 An analysis of each 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 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 dumping option to be less preferable, a permit for dumping should not be given.

7.10 Each assessment should conclude with a statement supporting a decision to issue or refuse a permit for dumping.

7.11 Where monitoring is required, the effects and parameters described in the hypotheses should help to guide field and analytical work so that relevant information can be obtained in the most efficient and cost-effective manner.

8 MONITORING

8.1 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.

8.2 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 within those predicted. The following questions must 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?

8.3 It may usually be assumed that suitable specifications of existing (pre-disposal) conditions in the receiving area are already contained in the application for dumping. 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.

8.4 The permitting authority is encouraged to take account of relevant research information in the design and modification of monitoring programmes. The measurements can be divided into two types – those within the zone of predicted impact and those outside.

8.5 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. The former can be answered by designing a sequence of measurements in space and time that ensures that the projected spatial scale of change is not exceeded. The latter can be answered by the acquisition of measurements that provide information on the extent of change that occurs outside the zone of impact as a result of the dumping operation. Frequently, these measurements will be based on a null hypothesis – that no significant change can be detected. Measurements should focus on physical aspects, but should have regard to chemical and biological characteristics identified during the waste characterization phase.

8.6 The results of monitoring (or other related research) should be reviewed at regular intervals in relation to the objectives and can provide a basis to:

- .1 modify or terminate the field-monitoring programme;
- .2 modify or revoke the permit;

- .3 redefine or close the dump-site or take other appropriate remediation or mitigation measures; and
- .4 modify the basis on which applications to dump wastes are assessed.

9 PERMIT AND PERMIT CONDITIONS

9.1 A decision to issue a permit should only be made if all impact evaluations are completed and the monitoring requirements are determined. 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 dumped;
- .2 the location of the dump-site(s);
- .3 the method of dumping; and
- .4 monitoring and reporting requirements.

In cases where a rapid response could be required to address adverse impacts, the need for a mitigation plan should also be considered.

9.2 If dumping is the selected option, then a permit authorizing dumping must be issued in advance. It is recommended that opportunities are provided for public review and participation in the permitting process. In granting a permit, the hypothesized impact occurring within the boundaries of the dump-site, such as alterations to the physical, chemical and biological compartments of the local environment is accepted by the permitting authority. If the information provided is inadequate to determine whether a project would pose a significant risk to human health or the environment, the permitting authority should request additional information before taking a decision on issuing a permit. If it becomes evident that a project would pose significant risks to human health or the marine environment, or the information provided is still inadequate to make a decision, a permit shall not be issued.

9.3 Regulators should strive at all times to enforce procedures that will result in environmental changes as far below the limits of allowable environmental change as practicable, taking into account technological capabilities as well as economic, social and political concerns.

9.4 Permits 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.

9.5 The duration of potential impacts should be considered in determining the appropriate periods of time for retaining permits and other supporting documentation.

ANNEX 3

WORK ARRANGEMENTS FOR THE REVIEW OF THE "SPECIFIC GUIDELINES FOR ASSESSMENT OF DREDGED MATERIAL"

A review of the "Specific Guidelines for Assessment of Dredged Material" should be conducted, aimed at approval of a final draft text at the joint session of the Scientific Groups in 2012, taking into account:

- .1 the experience of Contracting Parties with the implementation of the current "Specific Guidelines" of 2001;
- .2 any new technical developments and the results of scientific research relevant for dredged material management;
- .3 the revised "Generic Guidelines" of 2008-2009;
- .4 the "Guidance for the Development of Action Lists and Action Levels for Dredged Material", adopted in 2008;
- .5 the recommendations contained in the final survey report on the "Usability and communication of the Specific Guidelines" (2008); and
- .6 the "Guidelines for the Sampling and Analysis of Dredged Material Intended for Disposal at Sea" (2004).

ANNEX 4

TERMS OF REFERENCE FOR THE CORRESPONDENCE GROUP TO REVIEW THE FRAMEWORK AND APPROACH TO ALL SPECIFIC GUIDELINES

The Correspondence Group is instructed to examine the approach to the "Specific Guidelines", with a view to improving their effectiveness and application, in accordance with the following work plan and timetable:

- .1 Review the relevant outcomes of recent regional workshops on the London Convention and Protocol and the survey report on the usability and communication of the Specific Guidelines, completed in 2008, with assistance from the Secretariat;
- .2 Undertake a thorough analysis of the advantages and disadvantages of the alternative options identified in document LC/SG 32/15 (paragraph 3.31), as set out below, and any other options identified by the Correspondence Group:
 - .1 maintain the status quo;
 - .2 maintain the existing format for the Specific Guidelines but also develop separate low-tech versions for each waste stream;
 - .3 use the Generic Guidelines as an umbrella document and develop simple supplements or appendices for each waste stream which do not duplicate the information from the Generic Guidelines;
 - .4 use the Generic Guidelines as a template and add simple boxed text on specific waste streams; or
 - .5 maintain the information in the existing Specific Guidelines but add a question and answer style section before each document to present the most important information;
- .3 Review any experiences with the implementation of the low-tech extension to the WAG Tutorial for dredged material, as they become available; and
- .4 Submit a report to the next joint session of the Scientific Groups.

ANNEX 5

**RESOLUTION LC-LP.2(2010)
ON THE ASSESSMENT FRAMEWORK FOR SCIENTIFIC RESEARCH
INVOLVING OCEAN FERTILIZATION
(Adopted on 14 October 2010)**

THE THIRTY-SECOND CONSULTATIVE MEETING OF THE CONTRACTING PARTIES TO THE LONDON CONVENTION AND THE FIFTH MEETING OF THE CONTRACTING PARTIES TO THE LONDON PROTOCOL,

RECALLING the objectives of the London Convention¹⁸ and the London Protocol¹⁹;

CONFIRMING that the "Statement of concern" of the Scientific Groups remains valid;

RECALLING resolution LC-LP.1(2008) on the regulation of ocean fertilization and the agreement therein that the Scientific Groups under the London Convention and the London Protocol should develop an assessment framework for ocean fertilization to assess research proposals on a case-by-case basis;

1. **ADOPT** the "Assessment Framework for Scientific Research Involving Ocean Fertilization" (hereafter referred to as the Assessment Framework);

2. **DECIDE** that, in accordance with paragraph 4 of resolution LC-LP.1(2008), scientific research proposals should be assessed on a case-by-case basis using the Assessment Framework;

3. **DECIDE FURTHER** that Contracting Parties should use the Assessment Framework 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 or the London Convention;

4. **EMPHASIZE** that the consultation, notification and reporting provisions of the Assessment Framework are integral to the assessment of a proposed ocean fertilization research activity, and that timely notification and sharing of information would facilitate consistency in its application;

5. **AFFIRM** 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 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, particularly in light of the progress made with this resolution, resolution LC-LP.1(2008), and the Assessment Framework;

¹⁸ "Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea." (Article I of the London Convention).

¹⁹ "Contracting Parties shall individually and collectively protect and preserve the marine environment from all sources of pollution and take effective measures, according to their scientific, technical and economic capabilities, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter. Where appropriate, they shall harmonize their policies in this regard." (Article 2 of the London Protocol).

6. **REAFFIRM** that for activities, including ocean fertilization research activities, that fall within the scope of Article III(1)(a) of the London Convention or Article 1.4.1 of the London Protocol, and are not otherwise exempted from being "dumping", placement of matter for a purpose other than the mere disposal thereof which is contrary to the aims of the London Convention or the London Protocol does not fall within the exemption under Article III(1)(b)(ii) of the London Convention and Article 1.4.2.2 of the London Protocol and should be regarded as "dumping"; and

7. **RESOLVE** that this resolution and the Assessment Framework should be reviewed at appropriate intervals in light of new and relevant scientific information and knowledge and in light of experience applying the Assessment Framework.

ANNEX 6

**ASSESSMENT FRAMEWORK FOR SCIENTIFIC RESEARCH
INVOLVING OCEAN FERTILIZATION**

(Adopted on 14 October 2010)

Table of contents

Section	Page Nos.
1 INTRODUCTION AND SUMMARY	2 – 4
2 INITIAL ASSESSMENT	5
3 ENVIRONMENTAL ASSESSMENT	5 - 19
3.1 PROBLEM FORMULATION	5
3.2 SITE SELECTION AND DESCRIPTION	6 – 9
3.3 EXPOSURE ASSESSMENT	9 – 11
3.4 EFFECTS ASSESSMENT	11 – 12
3.5 RISK CHARACTERIZATION	13 – 18
3.6 RISK MANAGEMENT	19
4 DECISION MAKING	20
5 RESULTS OF MONITORING.....	20
6 GLOSSARY	21

1 INTRODUCTION AND SUMMARY

1.1 This "Assessment Framework for Scientific Research Involving Ocean Fertilization" (the Framework) is designed for Contracting Parties to evaluate proposed activities that fall within the scope of resolution LC-LP.1(2008). Ocean fertilization is defined as any activity undertaken by humans with the principal intention of stimulating primary productivity in the oceans²⁰.

1.2 This Framework provides a tool for assessing proposed activities on a case-by-case basis to determine if the proposed activity constitutes legitimate scientific research that is not contrary to the aims of the London Convention or Protocol²¹.

1.3 An overview of this Framework is given in Figure 1. The elements of the Framework can be summarized as follows:

- .1 The **Initial Assessment** determines whether a proposed activity falls within the definition of ocean fertilization and has proper scientific attributes, and thus is eligible to be considered and evaluated in this framework;
- .2 **Environmental Assessment**
 - .1 The **Problem Formulation** describes the proposed activity and sets the bounds for the assessment carried out in subsequent steps;
 - .2 The **Site Selection and Description** outlines the criteria used for site selection and data necessary for describing the physical, geological, chemical, and biological conditions at the Proposed Site;
 - .3 The **Exposure Assessment** describes the movement and fate of added/redistributed substances within the marine environment;
 - .4 The **Effects Assessment** assembles the information necessary to describe the response of the marine environment resulting from ocean fertilization activities, taking into account the short- and long-term effects. This section describes the factors to be considered for the evaluation of the Impact Hypothesis;
 - .5 The **Risk Characterization** integrates the exposure and effects information to provide an estimate of the likelihood for adverse impacts and the magnitude of those impacts. The risk characterization should include a description of the uncertainties associated with its conclusions; and

²⁰ Ocean fertilization does not include conventional aquaculture, or mariculture, or the creation of artificial reefs.

²¹ This Framework is to be interpreted and applied in conformity with the relevant rules of international law, including as reflected in the United Nations Convention on the Law of the Sea 1982 (UNCLOS). Nothing in this Framework prejudices the rights, jurisdiction and duties of States under international law including as reflected in UNCLOS.

.6 The **Risk Management** is a structured process following risk characterization designed to minimize and manage risk and implement appropriate monitoring and intervention and remediation strategies to manage risks, including mitigation and contingency planning. Risk management procedures, based on a precautionary approach, are necessary to ensure minimization of environmental risks;

.3 **Decision Making**

The determination that a proposed activity is legitimate scientific research, and is not contrary to the aims of the London Convention and Protocol, should only be made upon completion of the entire Framework; and

.4 **Results of monitoring**

The collection and use of information resulting from monitoring informs future decision making and can improve future assessments.

1.4 There could be several Contracting Parties involved in an experiment depending on the flag of the vessel/s used, where the matter is loaded, where the experiment occurs, the funding source/s and the scientific expertise involved. The Contracting Parties involved should consult each other to determine the most appropriate lead for the application of the Framework. In the case where an experiment is intended to take place within the jurisdiction of a Contracting Party, that Contracting Party should take the lead.

1.5 In general, the Contracting Parties should ensure that this Framework is used in an iterative manner to ensure that all steps receive full consideration before decisions are made. Notwithstanding, the preceding sentence, where it is determined part way through the assessment of a proposal that unacceptable impacts are considered likely, the assessment may be terminated without completing all steps in the Framework in order to avoid unnecessary work, i.e. the proposal is withdrawn.

1.6 Contracting Parties should verify that key assumptions and statements are supported by sufficient information on which to base a decision including all the issues covered in the Framework. The level of detail required for each issue should be appropriate to the nature of the proposal.

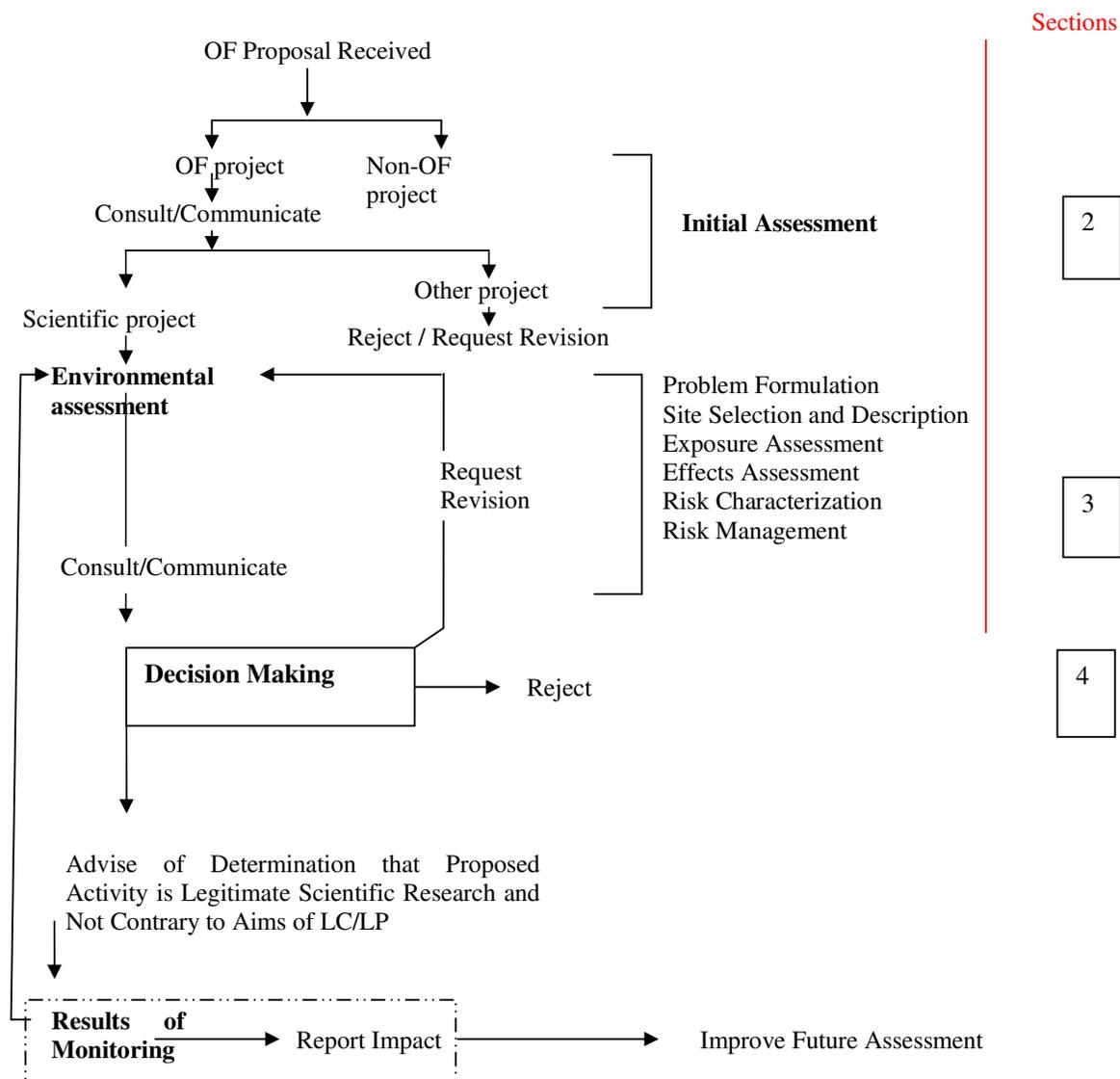
1.7 Upon completion of the **Initial Assessment**, the Secretariat of the London Convention and Protocol should be informed. Contracting Parties may also inform the Secretariat after receiving a proposal, prior to the completion of the Initial Assessment.

1.8 Contracting Parties should establish a consultation process with all stakeholders before a final decision is made. As part of this consultation process potentially affected countries should be identified and notified and a plan should be developed to explain the potential impacts, encourage scientific co-operation, and provide for ongoing consultation.

1.9 A determination that the proposed activity is not contrary to the aims of the Convention or Protocol should only be issued for defined periods of time and defined regions. The assessment and authorizing documentation should be publicly available at the time the decision is made.

1.10 It is recommended that relevant documents produced by Contracting Parties as part of their efforts to address the needs outlined in this Framework, should be catalogued by the Secretariat and maintained for use in future assessments. Contracting Parties should provide summaries of the assessment in English to the Secretariat.

Figure 1: Assessment Framework for Scientific Research Involving Ocean Fertilization



2 INITIAL ASSESSMENT

2.1 The received proposal should include a description of the activity falling within the definition of ocean fertilization in paragraph 1.1 above.

2.2 In order to determine if a proposed activity has proper scientific attributes, it should meet the following criteria:

- .1 the proposed activity should be designed to answer questions that will add to the body of scientific knowledge. Proposals should state their rationale, research goals, scientific hypotheses and methods, scale, timings and locations with clear justification for why the expected outcomes cannot reasonably be achieved by other methods;
- .2 economic interests should 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 should not preclude payment for services rendered in support of the experiment or future financial impacts of patented technology;
- .3 the proposed activity should be subject to scientific peer review at appropriate stages in the assessment process. The outcome of the scientific peer review should be taken into consideration by the Contracting Parties. The peer review methodology should be stated and the outcomes of the peer review of successful proposals should be made publicly available together with the details of the project. Where appropriate, it would be beneficial to involve expert scientists from other countries; and
- .4 the proponents of the proposed activity should 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 a specified time-frame.

2.3 Proposed activities that do not meet the above criteria cannot proceed through subsequent stages of the Framework without revision. Only proposed activities meeting these criteria should proceed through subsequent stages of assessment.

3 ENVIRONMENTAL ASSESSMENT

3.1 Problem Formulation

This section defines the bounds of the assessment and characterization phase of the Framework, i.e. steps 1.3.2.1 to 1.3.2.5. Proposals should include:

- .1 information regarding the principal project team and their affiliations, as well as identification of the proposed funding sources and any financial and commercial interests;
- .2 information required for the characterization of a proposed activity should include:
 - .1 the proposed activity location;
 - .2 the Fertilized Area (size);

- .3 the amount of substance(s) to be loaded and discharged, or the amount to be redistributed in the ocean;
 - .4 a detailed description of the composition and form of substance(s) to be added or redistributed and the source of the substance(s);
 - .5 the method, timing, and duration of both addition/redistribution of substance(s) and collection of data;
 - .6 the number, characteristics, and location of any structures to be located in the sea, if applicable;
 - .7 the anticipated fate of added/redistributed substances including, where appropriate, uptake and settling;
 - .8 the anticipated changes in concentration of substances introduced/redistributed into the ocean; and
 - .9 the flag State(s) of the vessel(s) involved and the port State(s) where the substance will be loaded aboard the vessel(s);
- .3 an activity-specific conceptual model should include:
- .1 an Impact Hypothesis; and
 - .2 gaps and uncertainties relative to the conceptual model, and any activities planned to address these gaps and uncertainties should be identified; and
- .4 a formulation of Assessment Endpoints; and
- .5 a plan for the monitoring of and reporting on observed impacts on the marine environment.

3.2 Site Selection and Description

3.2.1 This section concerns the provision of data necessary for Contracting Parties to evaluate the physical, geological, chemical, and biological conditions at the Proposed Site, and the uncertainties in these conditions in relation to the proposed activity. These data can be used for both site selection and the analyses conducted in other elements of the Framework. These data are also necessary for the Experimental Baseline and the successful achievement of the scientific objectives of the proposed activity. Figure 2 depicts the planning and implementation stages of an ocean fertilization activity, including the Proposed Site.

3.2.2 An overall rationale for choosing the Proposed Region(s) should be provided, based on the following key goals:

- .1 suitability for testing the hypotheses;
- .2 suitability for minimizing undesirable effects; and
- .3 avoiding proximity to areas of special concern and value.

3.2.3 The rationale for site selection should take into consideration relevant criteria, including those listed below and should rank potential sites in order of priority.

3.2.4 Site description should include the following information for establishing both the Experimental Baseline and the Risk Assessment Baseline conditions and their variability:

- .1 coordinates of the Proposed Region within which the site(s) will be selected;
- .2 coordinates of the Region of Potential Impact;
- .3 physical characteristics of the Proposed Region and Region of Potential Impact:
 - .1 water column attributes:
 - .1 depth of water;
 - .2 depth of light penetration;
 - .3 temperature and salinity distributions; and
 - .4 depth of mixed layer;
 - .2 sediment and seabed considerations:
 - .1 characteristics of sediments in the Region of Potential Impact; and
 - .2 bottom sediment transport to areas of special concern and value or coastal zones and the potential for re-suspension of added substances;
 - .3 transport and mixing considerations:
 - .1 intensity of vertical and horizontal mixing;
 - .2 currents – surface, mid-depth, and bottom water current direction and velocity; and
 - .3 exchange regime with the surrounding media, including the atmosphere;

Figure 2: Planning and Implementation Stages of an Ocean Fertilization Activity

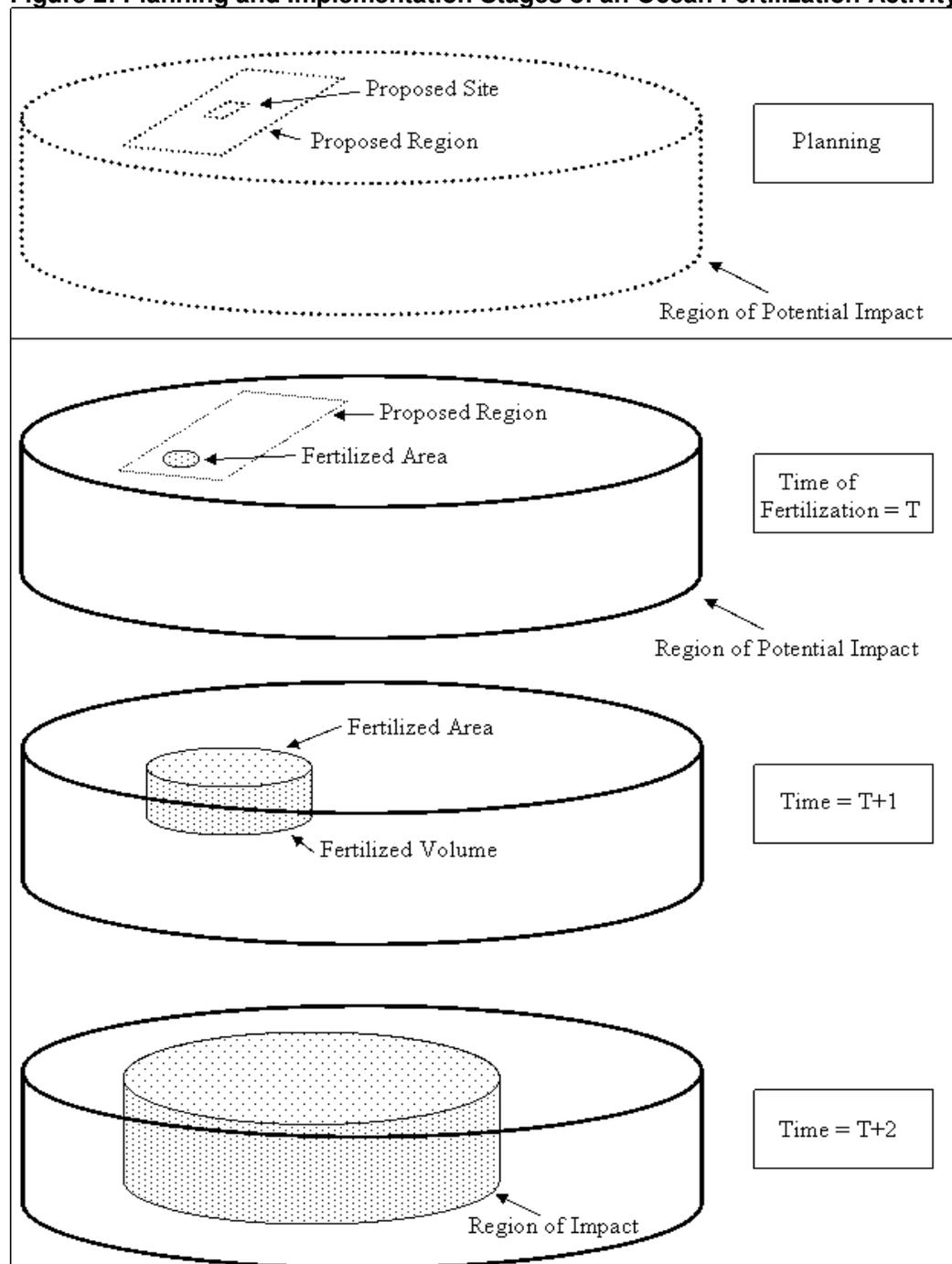


Figure 2: Planning and implementation stages of an ocean fertilization project. At the time of fertilization (time = T), the activity occurs at a location within the proposed region of the ocean (i.e. fertilized area). As time progresses the fertilized area and volume will change (shown as Time = T+1). The region of impact refers to the area of the ocean in which detectable changes (effects) occur as a result of ocean fertilization activity shown as (Time = T+2).

- .4 meteorology (where relevant to installed structures or dispersal systems):
 - .1 temporal/seasonal conditions and wind variability that influences physical conditions at the proposed site; and
 - .2 wave period and height;
- .4 chemical characteristics:
 - .1 dissolved oxygen and Climate-Active Gases;
 - .2 concentrations and composition of macro-nutrients (e.g., N, P, Si) and micro-nutrients (e.g., Fe, Zn);
 - .3 carbonate system, pH, alkalinity, etc., and dissolved organic carbon;
 - .4 particulate loading and fluxes; and
 - .5 contaminants;
- .5 biological and ecological characteristics:
 - .1 benthic species and habitats in particular the presence of vulnerable ecosystems and protected species; as well as areas of special concern and value; and
 - .2 species expected in water column, in particular plankton community composition and dynamics, the presence of economically important species and vulnerable, endemic, protected and/or migratory species (including marine mammals and seabirds); and
- .6 other considerations:
 - .1 proximity to other uses of the sea, e.g., fishing, navigation, engineering uses, areas of special concern and value, and traditional uses of the sea.

3.3 Exposure Assessment

3.3.1 Exposure assessment is concerned with describing the movement and fate of added substances within the marine environment. The uncertainties associated with such an assessment also need to be identified.

3.3.2 The proposal should discuss the implications of limited knowledge of Risk Assessment Baseline conditions.

3.3.3 Technical considerations should include:

- .1 general category:
 - .1 type of ocean fertilization activity (e.g., artificial upwelling, nutrient addition);
- .2 mode of application:
 - .1 mechanical description/method of delivery;
 - .2 any hazards due to ship operations or any structure to be located at sea (e.g., waste management, noise, exhaust gases); and
 - .3 any hazards if the substance reaches an unintended area;
- .3 chemical characterization of each substance (including solvents, chelators, tracers, etc.) to be added or of artificially upwelled water:
 - .1 chemical composition of substance to be added; and
 - .2 hazardous properties of substance(s), including any impurities/contaminants;
- .4 physical characterization:
 - .1 form (e.g., solid, particle size, liquid solution, concentration);
 - .2 depth in water column of addition/redistribution;
 - .3 rate of addition/redistribution;
 - .4 Fertilized Area of ocean initially affected by the addition/redistribution of substance(s), and the intended Fertilized Volume;
 - .5 intended initial concentration of substance(s) in the Fertilized Volume;
 - .6 total amount of substance(s) to be added/redistributed;
 - .7 duration of the fertilizing process (including number of and interval between additions);
 - .8 other impacts on or changes to the physical environment (including temperature and buoyancy effects, as well as the effect of the physical apparatus) during the fertilization activity; and
 - .9 other information necessary to describe the spatial and temporal extent of exposure processes (e.g., advection to sensitive areas);
- .5 biological characterization:
 - .1 any intended or unintended transport of organisms;

- .6 methodology used to estimate the exposure processes and pathways – including movement and fate of all added/redistributed substances (solvents, chelators, tracers, etc.) and the sensitivity of the exposure to underpinning assumptions, uncertainties and data gaps regarding:
 - .1 physical processes (e.g., currents, wind patterns, seasonal influences, settling, dispersion, re-suspension, subduction);
 - .2 chemical processes (e.g., decomposition, transformation, coagulation); and
 - .3 biological processes (e.g., transformation, bioaccumulation, bio-magnification);
- .7 other considerations:
 - .1 other unintended impacts of the delivery method;
 - .2 conflicts of the delivery method with other legitimate uses of the sea; and
 - .3 cumulative exposure from repeated or other ocean fertilization activities, if relevant.

3.4 Effects Assessment

3.4.1 Short- and long-term effects assessment assembles the information necessary to describe the response of the marine environment resulting from exposure to ocean fertilization. This section considers details required for the evaluation of the Impact Hypothesis.

3.4.2 Technical Considerations:

- .1 Effects, such as changes to marine ecosystem structure and dynamics including sensitivity of species, populations, communities, habitats, and processes, within and outside the Fertilized Volume. Elements of concern include physiological changes and changes in state and rate variables:
 - .1 biogeochemical changes (e.g., nutrients, oxygen, pH, carbonate system, dissolved organics);
 - .2 organism responses (e.g., population responses):
 - .1 response of primary producers; and
 - .2 potential response of other organisms (e.g., bacteria, planktonic species, fish, reptiles, seabirds, marine mammals, benthic species);
 - .3 ecosystem considerations:
 - .1 community composition and biodiversity;

- .2 food-web interactions (e.g., grazing responses, predator/prey relationships);
- .3 potential for bioaccumulation and biomagnification of any toxins and contaminants in organisms;
- .4 potential for acute or chronic effects from toxins or contaminants; and
- .5 human health considerations, including food chain effects;
- .4 biogeochemical fluxes (e.g., nutrients, dissolved and particulate carbon, trace elements);
- .2 in considering the effects listed in paragraph 3.4.2.1, the following potential adverse effects should be addressed:
 - .1 short- and long-term primary production changes, leading to impacts to fisheries or protected species, or other social impacts including visual amenity;
 - .2 short- and long-term ecosystem changes, such as changes in community structure and/or diversity;
 - .3 hypoxia/anoxia;
 - .4 acidification;
 - .5 harmful algal blooms;
 - .6 production of Climate-Active Gases;
 - .7 changes in the absorption of light and heat and associated buoyancy changes that affect oceanic circulation, air-sea exchange, and/or climate;
 - .8 cumulative effects from repeated or other fertilization activities in close proximity in space and time;
 - .9 changes to sediment and benthic habitat; and
 - .10 downstream effects, such as nutrient robbing which may result in effects such as a decrease in production and/or a shift in species composition;
- .3 methodologies (including models, pre-existing data, targeted measurements) for assessing effects should be described, including the sensitivity to underpinning assumptions, uncertainties and data gaps such as:
 - .1 limited information about Experimental Baseline conditions;
 - .2 natural variability within the Risk Assessment Baseline;
 - .3 longevity of the response; and
 - .4 lack of long-term monitoring in previous activities.

3.5 Risk Characterization

3.5.1 This section integrates the exposure and effects information to provide an estimate of the likelihood for adverse impacts and the magnitude of those impacts as indicated by the initial Impact Hypothesis. Impacts may range from low probability and low magnitude to high probability and high magnitude. Risk characterization should be considered using site-specific information. The risk characterization should include a description of the risks and uncertainties associated with its conclusions.

3.5.2 *Identification of potential risks:* risk is a function of the magnitude of an adverse effect and its likelihood. Risks are characterized in terms of the assessment endpoints identified in Problem Formulation. Risks can be brought about through the following changes:

- .1 physical: Examples include:
 - .1 the effects of permanent structures, such as pipes utilized to bring about upwelling of nutrient rich deep water to nutrient poor surface waters, include hazards to navigation and restriction of fishing grounds; and
 - .2 vertical distribution of heat in the ocean is altered by the presence of phytoplankton blooms, which would absorb additional light and heat thus leading to increased surface water temperature;
- .2 chemical: Examples include:
 - .1 changes in pH resulting from ocean fertilization. Ocean fertilization may lead to changes in the pH of seawater at the site of fertilization, depending on the type and chemical state of the fertilizing agents added. The sinking and decomposition of the organic matter results in chemical changes to the carbonate ion balance, which may contribute to lowering of the pH of seawater (ocean acidification);
 - .2 changes in dissolved oxygen concentration are brought about by increased phytoplankton populations. This can result in increased oxygen in surface waters due to photosynthesis. Following the decline of the bloom, the organic matter sinks through the water column. Decomposition of this organic matter at depth can result in depleted oxygen, possibly leading to anoxia in deep waters thus bringing about the death of benthic communities; and
 - .3 generation of Climate-Active Gases, e.g., nitrous oxide (N₂O) and methane (CH₄);
- .3 biological: Examples include:
 - .1 toxins can be produced as a result of harmful algal blooms. These toxins can have detrimental effects on shellfish and finfish, resulting in adverse effects on human health;
 - .2 enhanced primary productivity is the intention of many fertilization activities and a side-effect of others. This enhanced productivity may lead to changes in the community structure. This may lead to

secondary effects including possibly enhanced fish populations or, alternatively, may enhance populations of less economically relevant species such as jellyfish; and

- .3 changes to the nutrient composition of seawater, as a result of fertilization activities, may bring about changes in composition of the lower trophic levels of the food-web (e.g., bacteria, plankton) which will have secondary and possibly more intense effects further up the marine food chain.

3.5.3 The risks characterized should take into consideration their impingement upon other legitimate uses of the sea.

3.5.4 *Cumulative impacts* may be anticipated as a result of other activities, e.g.:

- .1 multiple activities in the same water body, e.g., aquaculture, offshore oil and gas exploration and other fertilization activities; and
- .2 multiple fertilization activities in the same water mass over a period of time.

3.5.5 *Baseline*: baseline can be defined as the state of the ecosystem (including natural variability). The description will draw upon the activities and results of site characterization in section 3.2 above. There are two baselines of relevance to ocean fertilization operations: Experimental Baseline and Risk Assessment Baseline.

3.5.6 Data should be collected at different water depths and at as many geographical points as necessary to be representative of the Region of Potential Impact as defined in Figure 2 above.

3.5.7 For both Experimental and Risk Assessment Baselines information can be drawn from literature reviews, existing data from other activities, and targeted surveys.

3.5.8 For each Assessment Endpoint, integration of the magnitude of the effect and the probability, or likelihood, of the effect occurring will yield an estimation of risk. Both of these components are likely to be, at best, semi-quantitative so will represent judgments based on the available knowledge and experience.

3.5.9 *Magnitude of effect*: An estimation of the magnitude of the effect will need to consider the temporal and spatial scale of effects:

- .1 *Temporal scale*: The duration of the effects could be transient, such as a phytoplankton bloom that occurs over in a matter of days or is more sustained; or the introduction of structures into the marine environment creating physical barriers and potentially causing long-term effects. Temporal responses may also involve time lags so that the effects may be delayed. All else being equal, the longer the predicted duration of effect, the greater the risk;
- .2 *Spatial scale*: The geographical scale of the effect can be near-field (local) or far-field (remote) in relation to the proposed operation. It should be taken into account that the Fertilized Volume can and will move over time in three dimensions. For example, fertilization could cause depletion of nutrients in subducted waters that are later upwelled elsewhere. All else being equal, the larger the area over which effects are manifested, the greater the risk; and

- .3 *Number of effects:* The number of effects identified as Assessment Endpoints by the problem formulation will vary on a case-by-case basis. All else being equal: the greater the number of effects predicted, the greater the overall risk.

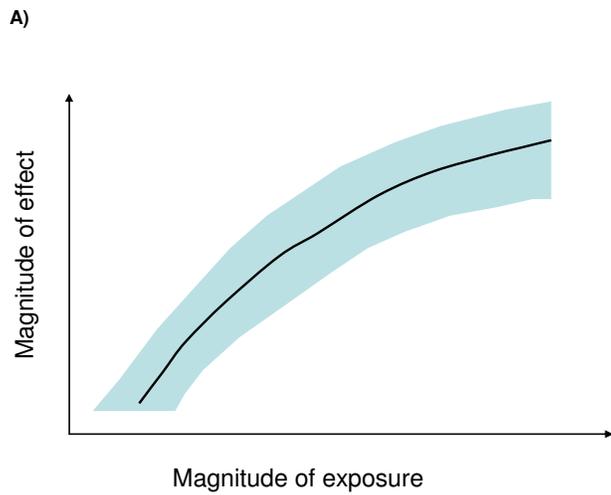
3.5.10 *Weight of evidence approach:* The information produced during the exposure and effects assessments is used to develop lines of evidence supporting specific conclusions about how the proposed fertilization activity could influence the Assessment Endpoints. Multiple lines of evidence will be used to describe the physical, chemical, and biological processes relevant to changes in each Assessment Endpoint and conclusions regarding the magnitude of potential changes and the likelihood of those changes. For example, results from previous field observations, modelling results, and laboratory or mesocosm experiments could provide independent lines of evidence supporting a specific conclusion that relates some aspect of the proposed fertilization activity and the assessment endpoints. The strength of any conclusion will be a function of the "weight" of evidence supporting it. Used in this sense, *weight* is the result of the degree to which independent lines of evidence support specific aspects of the conclusion and the amount of information, overall, supporting the conclusion. The greater number of independent lines of evidence and information supporting the conclusion, then the greater the weight of evidence.

3.5.11 *Magnitude and likelihood:* For each Assessment Endpoint, information relating magnitude of exposure and magnitude of effect will be used to describe the risk to that endpoint, such as exemplified in Figure 3A, and that together with the likelihood of effects, used to determine the risk conclusion through the following considerations:

- .1 A conventional risk assessment matrix (Figure 3B) can be used to inform and provide a consistent approach to decision-making. Separate sets of criteria are defined for both the magnitude and the likelihood of effects according to the parameters of the Assessment Endpoint. These are then brought together in a matrix to identify relative degrees or categories of risk. The boundaries of the significance of the risk indicated in the matrix can be summarized using categories (e.g., "high" "medium" "low") or on a numerical scale;
- .2 *Magnitude:* In the **Environmental Assessment**, it is necessary to distinguish conclusions about the magnitude of an effect from conclusions about the likelihood for an effect of a particular magnitude (Figure 3B). This distinction acknowledges the uncertainty associated with the relationship between magnitude of exposure and magnitude of effect, and is depicted as the shaded area around the line representing the relationship in Figure 3A. Acute and chronic effects on human health or sensitive marine organisms should have the highest magnitude rating. National Action Lists could be used in this regard²²;
- .3 In addition to the exposure-effect relationship, other factors contributing to conclusions about the magnitude of risk include the spatial extent over which the effect will occur, as well as the duration of the effect. Evidence concerning magnitude, spatial extent, and duration of the effect is used to reach conclusions about the magnitude of a change in the Assessment Endpoint, i.e. the relative positions along the horizontal axis in Figure 3B;

²² See for instance document LC/SG 32/2.

- .4 *Likelihood:* Conclusions regarding the likelihood for effects of a given magnitude are developed from evidence regarding the strength of relevant cause-and-effect relationships (e.g., between a specific exposure process and a given effect, as determined by the exposure and effects assessments), uncertainties associated with these relationships and the role of natural variation in these processes in the environment; and
- .5 Evidence-based conclusions regarding magnitude of effect and likelihood are used to identify the cells, in Figure 3B, representing the risk conclusion for the Assessment Endpoint under consideration. Following this approach, a version of Figure 3B would be prepared for each Assessment Endpoint evaluated in the Environmental Assessment. It should be acknowledged here that the presentation of risks in Figure 3B is only one of several different approaches that could be used, depending on the needs and uses of the assessment.



B)

	Consequences			
	Severe	Moderate	Mild	Negligible
Probability				
High	High	High	Medium/Low	Very low
Medium	High	Medium	Low	Very low
Low	High/Medium	Medium/Low	Low	Very low
Negligible	High/Medium/Low	Medium/Low	Low	Very low

Figure 3 – Relationship between magnitude of effect and exposure (A) and risk assessment matrix (B)

3.5.12 *Integrating across endpoints to produce an overall description of risk:* Once conclusions are reached regarding the risk to each Assessment Endpoint, an overall risk conclusion is to be developed that integrates across all Assessment Endpoints. This integration step gives consideration to the nature of the risks and differences in emphasis, importance, or weight that may be attached to the risks under consideration. It is a useful part of decision making under Risk Management to evaluate the sensitivity of the ultimate decision(s) to changes in key elements of the integration process:

- .1 different logic frameworks may be used to accomplish this integration in the practice of environmental risk assessment. Obviously, the approach selected by a Contracting Party will be selected to satisfy both national and international requirements. Approaches can range from narrative presentation of arguments to more formal, quantitative frameworks such as the application of decision analysis methods; and
- .2 regardless of the approach taken, the purpose of the integration is to inform the decision-making processes of Risk Management.

3.5.13 *Uncertainties:* In addition to describing and communicating the risks posed by the proposed fertilization activity, the Environmental Assessment is also to provide a description and summary of the uncertainties associated with its conclusions. Such a description is to include a listing of the significant/consequential assumptions, data gaps, and sources of variation in exposure and effect processes:

- .1 this element of the Environmental Assessment should go beyond a simple list and provide an evaluation of the uncertainties such that it is sufficient to inform decision-makers regarding the limitations and constraints associated with the risk conclusions, including the means for decision-makers to inform themselves about the implications for decision-making posed by those identified uncertainties; and
- .2 this treatment of uncertainty will also provide a source of input for identifying future monitoring and/or research activities through which uncertainties can be reduced and future risk assessments can be supported.

3.5.14 In general, risk increases with the magnitude of the effect, the size of the area over which it occurs, and the longer its duration. However, it should be considered that widespread, prolonged low-level effects may have greater potential for cumulative impact than contained, brief high-level effects.

3.5.15 The principal products of risk characterization are a series of evidence-supported predictions about the risks posed by a proposed ocean fertilization activity and a clear description of the uncertainties. These predictions are developed to inform the decision-making processes comprising Risk Management.

3.5.16 Because the Risk Management decisions are based on predictions, monitoring should seek to test these predictions, so that future Environmental Assessment can be improved.

3.6 Risk Management

3.6.1 Risk Management procedures are necessary to ensure that, as far as practicable, environmental risks are minimized and the scientific benefits maximized and that a precautionary approach is followed.

3.6.2 The results from Risk Characterization will provide information for making Risk Management decisions.

3.6.3 The Risk Management process includes consultation with relevant countries to ensure that other activities in the Proposed Region are considered, and to allow for additional perspectives to be considered.

3.6.4 *Mitigation and Contingency Planning:* Risks should be managed to reduce them to a low level. Strategies to manage or mitigate risks need to be appropriate for the risks under consideration. They may be imposed as additional conditions by the Contracting Parties or included as an intrinsic part of the proposal. Such strategies may include:

- .1 temporal restrictions (e.g., during certain oceanographic conditions or biologically important times for species of concern);
- .2 spatial restrictions (e.g., proximity to areas of special concern and value); and
- .3 delivery restrictions (e.g., substances, tracers, amounts, repetition).

3.6.5 Contingency planning will also need to be considered to respond to monitoring in cases where the Impact Hypothesis is found to be incorrect. This may include the cessation of fertilization activities, particularly in the case of multiple additions over time or artificial upwelling.

3.6.6 *Monitoring:* A monitoring plan should be implemented in order to:

- .1 verify that any conditions imposed by the Contracting Parties are met – *compliance monitoring* – and that the assumptions made during the assessment of the proposed activity review were correct and sufficient to protect the environment and human health – *impact 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 and local and regional consequences;
- .2 determine the Region of Impact and to ascertain that changes are within the range of those predicted. 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?;
- .3 take into account relevant research and modelling information in evaluating the design and requesting modification of impact monitoring programmes.

4 DECISION MAKING

4.1 A decision that a proposed activity is legitimate scientific research and is not contrary to the aims of the London Convention and Protocol should only be made if all earlier steps of the Framework, including the appropriate consultation and communication, have been satisfactorily completed and conditions are in place that ensure that, as far as practicable, environmental disturbance and detriment would be minimized and the scientific benefits maximized.

4.2 Consent should be sought from all countries with jurisdiction and/or in the Region of Potential Impact, without prejudice to international law including as reflected in the relevant provisions of UNCLOS.

4.3 If the risks and/or uncertainties are so high as to be deemed unacceptable, with respect to the protection of the marine environment, taking into account the precautionary approach, then a decision should be made to seek revision of or reject the proposal.

4.4 Authorization of the project includes the duration and location of the activity, the requirements for monitoring and reporting, and any other conditions required by Contracting Parties. This authorization should be communicated to the Secretariat and relevant countries.

5 RESULTS OF MONITORING

5.1 A report of any impacts of the ocean fertilization activities, including results of monitoring, should be communicated through the Secretariat.

5.2 Collection and use of information resulting from monitoring informs future decision making and can improve future assessments.

5.3 As new results become available, monitoring requirements should be reviewed at appropriate intervals in relation to the objectives and can provide a basis to:

- .1 modify or terminate the impact monitoring;
- .2 modify or revoke the authorization;
- .3 redefine or close the authorized site; and
- .4 modify the basis on which proposals to conduct ocean fertilization activities are assessed.

6 GLOSSARY

Assessment Endpoint: The physical, biological or chemical attributes of the ecosystem to be protected, which may be adversely affected by the action of the experiment.

Climate-Active Gases: Gases which affect the climate in some way, including, but not limited to greenhouse gases (CO₂, CH₄, N₂O), stratospheric ozone-depleting substances (CH₃Br, CH₃Cl, CHBr₃, etc.), aerosol-forming gases (DMS, NH₄) and volatile organic compounds which impact tropospheric photochemistry.

Experimental Baseline: A description of conditions specifically relevant to the experiment, including a description of those conditions over a short period of time directly preceding the experiment.

Fertilized Area: The surface area of the ocean into which substances are introduced. This area will change over time as substances are transported.

Fertilized Volume: The volume of the ocean in which substance concentrations have been purposefully elevated. This volume will change over time as substances are transported.

Impact Hypothesis: A concise statement of the expected consequences, as defined in Annex 2, paragraphs 12 to 15, to the London Protocol.

Marine Protected Areas (MPAs): Any oceanic region which has been designated by national or international law to protect part or the entire enclosed environment.

Nutrient: A chemical element or compound found in the environment that organisms need to grow and survive. Nutrient requirements vary between organisms. Macro-nutrients are those nutrients that organisms require in relatively large amounts, and include nitrogen, phosphorus and silicate. Micro-nutrients are required in much smaller amounts but are nonetheless essential for growth and survival. Micro-nutrients include metals such as iron and zinc.

Nutrient Robbing: The depletion of essential nutrients downstream of the fertilized region as a result of the activity.

Proposed Region: The area of the ocean in which the Proposed Site is located.

Proposed Site: The surface area of the ocean into or through which substances are planned to be introduced.

Region of Potential Impact: The area of the ocean in which detectable changes would be expected to occur as a result of substance introductions.

Region of Impact: The area of the ocean in which detectable changes (effects) occur as a result of substance introductions.

Risk Assessment Baseline: A description of conditions collected over a longer period of time, which is used to draw conclusions about the potential for adverse impact resulting from the operation. This baseline should include data representative of natural variability, e.g., diurnal, seasonal and interannual.

ANNEX 7

TERMS OF REFERENCE FOR THE INTERSESSIONAL WORKING GROUP ON OCEAN FERTILIZATION

1 The Intersessional Working Group on Ocean Fertilization should continue 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 Protocol and have the potential to cause harm to the marine environment.

2 The Working Group should consider proposals submitted to the Secretariat, based on the option of an interpretative resolution (LP CO2 3/7, annex 5), the proposal of Canada (LC 32/4/1) and any other options, as appropriate, and assess their ability to deliver a global, transparent and effective control and regulatory mechanism using, inter alia, the following criteria:

- .1 compatibility between the London Convention and Protocol and consistency of the outcomes under these two instruments;
- .2 consistency with resolutions and other previous work on ocean fertilization activities;
- .3 flexibility and adaptability to address emerging activities that fall within the scope of the London Convention and Protocol and have the potential to cause harm to the marine environment;
- .4 responsiveness to new and relevant scientific information and knowledge; and
- .5 procedure, timing and prospects for adoption and entry into effect.

3 To facilitate this work:

- .1 proposals for the Working Group session should be submitted to the Secretariat by 31 January 2011. Such proposals should include a preliminary assessment against the above criteria;
- .2 the Working Group should consider each of the proposals and develop its assessments against the above criteria;
- .3 the Working Group should further develop any proposals as it deems suitable; and
- .4 the Working Group should prepare a report to the next session of the governing bodies in 2011 which presents its assessments of any proposals submitted, reflects the range of views expressed and presents any recommendations.

4 This work should be conducted through correspondence and the convening of this Intersessional Working Group.

ANNEX 8

WORK PLAN FOR THE REVIEW OF THE 2007 CO₂ SEQUESTRATION GUIDELINES

The work plan for the review of the 2007 CO₂ Sequestration Guidelines consists of the following elements:

- .1 provide, in light of resolution LP.3(4), further specific guidance in cases of export of carbon dioxide streams to other countries for disposal and issues related to the management of transboundary movement of carbon dioxide after injection;
- .2 review and incorporate the texts recommended by the 1st meeting of the Legal and Technical Working Group on Transboundary CO₂ Sequestration Issues, as shown in the annex of document LC 32/5;
- .3 incorporate or include references, as necessary, to the CO₂ Sequestration Reporting Format as adopted in 2008 (LC 30/16, annex 8);
- .4 take into account any initial experiences of LP Contracting Parties with the implementation of the current Guidelines;
- .5 take into account the recommendations contained in the final survey report in 2008 on the "Usability and communication of the Specific Guidelines" (LC 30/3/2 and LC 30/16, paragraphs 3.12 to 3.14);
- .6 provide an interim report to the 6th Meeting of Contracting Parties in 2011; and
- .7 provide a final report with a revised text of the guidelines for consideration at the 7th Meeting of Contracting Parties in 2012.

ANNEX 9

REPORT OF THE 3RD MEETING OF THE COMPLIANCE GROUP UNDER THE LONDON PROTOCOL

1 INTRODUCTION

1.1 The 3rd Meeting of the Compliance Group under the London Protocol was convened at the IMO Headquarters, London, from 11 to 12 October 2010.

1.2 The members of the Compliance Group in attendance were:

Ms. Anne Daniel (Canada)
Prof. Hisakazu Kato (Japan)
Prof. Hans Lammers (Netherlands)
Mr. Baoxi Shang (China)
Dr. Chang-Hoon Shin (Republic of Korea)

1.3 The following member was unable to attend:

Capt. Federico Crescenzi (Italy)

1.4 Observers from the following Contracting Parties to the London Protocol also attended the meeting:

JAPAN
KENYA
SOUTH AFRICA
SPAIN
UNITED KINGDOM

The observer from the United Kingdom was an elected member whose terms begin at the end of the 5th Meeting of Contracting Parties (16 October 2010).

1.5 Observers from the following Contracting Parties to the London Convention also attended the meeting:

NIGERIA
UNITED STATES

1.6 An observer from the following State that is neither a Contracting Party to the London Protocol nor to the London Convention also attended the meeting:

THAILAND

2 ELECTION OF CHAIR AND VICE-CHAIR FOR THE NEXT TERM

The Group elected Ms. Anne Daniel as the Chair and Prof. Hisakazu Kato as the Vice-Chair for the next term, i.e. for the 3rd meeting of the Group and the intersessional period.

3 ADOPTION OF THE AGENDA

The Group adopted the Provisional Agenda for the session, as presented in document LP-CG 3/1.

4 ORGANIZATIONAL MATTERS

The Group briefly discussed organizational matters and agreed to arrange the order of work in such a way that those items that were related could be addressed together.

5 REVIEW OF INDIVIDUAL SUBMISSIONS

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.

6 CONSIDERATION OF ANY REPORTS REFERRED UNDER PARAGRAPHS 6.2, 6.4 AND 6.5 OF THE CPM;

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: AND

IDENTIFICATION AND REVIEW OF FACTORS CONTRIBUTING TO THE DIFFICULTIES EXPERIENCED BY CONVENTION PARTIES IN FULFILLING THEIR REPORTING OBLIGATIONS UNDER ARTICLE VI(4) OF THE CONVENTION

6.1 The Group agreed, because of their related nature, to address the three above-mentioned items together.

6.2 As was the case in previous years, the Secretariat has not received any completed "Incident Information Forms" pursuant to LP Article 10.3 and therefore no compilation could be prepared in accordance with CPM paragraph 6.4.

6.3 No notifications have been made under LP Article 26.1 (Transitional Period) and therefore no reports have been referred to the Group by the Meeting of Contracting Parties pursuant to CPM paragraph 6.5.

6.4 It was noted that the transitional period provision would terminate on 24 March 2011. The Secretariat has prepared a paper proposing to the Meeting of Contracting Parties that, because there has never been a request to use this provision, instead of aiming at amendments to the Protocol to extend the provision, it would be more productive to: (1) continue compliance promotion through the "Barriers to Compliance (B2C)" Project; and (2) invite prospective Parties to take advantage of the advice facility offered by the Compliance Group in CPM subparagraph 2.2.8.

6.5 The Group confirmed that it does have the power under paragraph 2.2.8 to "upon request of a non-Party, provide advice and guidance to facilitate its becoming a Party to the Protocol". However, this does not provide an extension of the availability of Article 26.1, but simply a separate facility that was included in the CPM to encourage prospective Parties to be compliant upon becoming Parties.

6.6 The Group **recommended** that the Secretariat, through its regular Barriers to Compliance (B2C) Project activities advise prospective Parties about this possible option for obtaining advice and guidance to facilitate its becoming a Party. The Secretariat was invited to consult the Compliance Group, as appropriate, on input to such technical assistance activities.

6.7 The Group reviewed the final summary report on permits issued in 2006 (LC-LP/Circ.34) and the final draft summary report on permits issued in 2007 (LC 32/INF.3) and noted that levels of reporting under the Convention are around the 50 per cent level, while for the Protocol, depending on the year, they are much higher. Non-reporting raises issues of non-compliance with the reporting obligation itself on a systemic basis, but also reduces transparency and makes it difficult to know whether Parties have implemented their obligations. An additional paper by the Secretariat, LP-CG 3/7/1, provided an update regarding Parties' responses to a number of recent information requests and reporting obligations.

6.8 The Group **recommended** that to ensure that Parties who have not issued permits still report, both the cover letter/circular and the reporting form itself should, in both the hard and electronic version, conspicuously identify the need for a NIL report, given the requirements of Article 9.4.1.

6.9 The Group **recommended** that Parties should also be advised on the reporting forms that where a Party's ratification includes other territories, it is required to also report on behalf of those territories.

6.10 It was noted that as was discussed in its 2009 report, the failure to have a national authority for Protocol matters would obviously be a fundamental reason why a Party has not reported. The Group emphasized the importance of all Parties appointing a national authority in order to enable it to meet the range of obligations under the Protocol. When the Focal Point changes, the Secretariat should be notified, and a new Focal Point identified. It also noted the progress by the Secretariat in gathering information about the number of Parties without an identified authority. There are presently three Parties for which there has been no contact point. Recently, the Secretariat has met with two IMO representatives from those Parties and is hopeful that these contacts will bear fruit. The Group **recommended** that any other Parties, currently present at the meeting of the governing bodies should be contacted directly by the Secretariat to obtain contact information. For the last two Parties, not in attendance, the Group **recommended** that the Secretariat follow up first through IMO Permanent Representatives, and if not successful, through their respective Diplomatic Missions in London, thus hopefully in one of these ways, to raise the issue of establishing a national contact point.

6.11 The Group **recommended** that the Secretariat, in its follow up with these States, also obtain information about whether implementing legislation is in place. If not, then these States might benefit from attending the B2C Project's regional and national workshops.

6.12 Professor Hisakazu Kato presented paper LP-CG 3/5 which he authored in consultation with the Chair and the Secretariat to examine whether the e-reporting format is consistent with obligations under the Protocol. The Group agreed with the paper's conclusion that Table 2 needed to more clearly identify that it pertains to wastes or other matter actually dumped, and should also include references to location, time and method of dumping, as set out in Article 9.1.2. One observer noted the difficulties his country had in trying to provide information about amounts to be dumped. The Group **recommended** that these comments be provided to any Correspondence Group on reporting that may be set up by the governing bodies. The Group thanked Professor Kato for his excellent paper.

6.13 The Group was advised that, if the governing bodies adopt the relevant recommendation of the Scientific Groups, Mr. Patrick Cotter (United States) would be chairing an intersessional SG's Correspondence Group to examine other proposed revisions to the e-reporting format as part of a larger revision of the reporting process, taking into account recommendations from the Compliance Group. The Group **recommended** that it contribute to the Correspondence Group, which is intended to complete its work in order to make recommendations to the April 2011 session of the Scientific Groups. It was noted that the combined efforts of the Compliance Group, the Correspondence Group on dumping reports, and the SG's Correspondence Group should be able to produce useful results. The Compliance Group would also be available to review the work after the meetings of the SGs should further input be appropriate.

6.14 The Group examined a paper by Dr. Chang-Hoon Shin (LP-CG 3/7), which provided a chart summarizing three categories of information/reporting obligations in the Protocol and then provided a detailed explanation of these obligations. The three categories were: (1) reporting obligations imposed upon all Contracting Parties under the Protocol (e.g., Article 9.4.1); (2) Reporting/notifying obligations imposed on applicable Contracting Parties under the Protocol (e.g., Article 10.3); (3) Other reporting/information/notifying obligations under the Protocol (e.g., Article 8.2). Dr. Shin requested that the Secretariat make one editorial change to the chart, clarifying the reference to Article 9.1.2 on page 1, and with that the Group **recommended** that this paper form a contribution to the work of any intersessional Correspondence Group on reporting. The Group thanked Dr. Shin for his efforts in preparing the excellent paper.

6.15 The Group considered that in the foregoing discussion, it had addressed a number of possible reasons why a Party might have difficulties in reporting, such as no national authority to prepare the reports, a misunderstanding about the need to file NIL reports, or lack of capacity to prepare such reports. The Secretariat drew the Group's attention to a summary of a consultant's report on field monitoring (LC 32/10). The paper noted at Conclusion (ix) that many Parties appear to regard the requirement to report information on monitoring as a voluntary one and noted that the number of reports submitted is very low. The Group noted that a lack of comprehension of obligations for reporting could be another reason why a Party might not report, and considered that it had addressed this through the development of paper (LP-CG 3/7). However, the Group noted that this issue is addressed in the paper, and that Article 9.4.1 creates a clear mandatory obligation to report on monitoring as per Article 9.1.3. The Group indicated its willingness to help with the future work in this area identified by the consultant, and supported by the SGs, if approved by the governing bodies.

6.16 Another possible reason for failure to report could be the lack of implementing legislation, resulting in no legal authority to issue permits. After discussion of this issue, it was **recommended**, that the Group and the Secretariat: (1) finalize the work begun by the Secretariat to determine which Parties have implementing legislation; (2) obtain copies of the legislation in e-format for the LP website; and (3) try to ascertain the reason why Parties do not have legislation.

6.17 A subsequent project to assist in developing domestic legislation to implement Protocol obligations could be: (1) an activity under the B2C Project identifying priority for Parties desiring financial or technical assistance to develop such legislation, based on a formal request from an LC or LP State; and (2) pursuing the idea of a regional champion or lead country to assist with such legislation.

6.18 It was noted that while the Consultative Meeting had in 2008 requested the Compliance Group to also examine the difficulties LC Parties were having in meeting Convention reporting obligations, the Compliance Group noted that the scale of the problem was much larger due to the number of Convention Parties. Since the Compliance Group was established under the London Protocol, it **recommended** that the Meeting of Contracting Parties provide further guidance about the level of effort the Compliance Group should expend in addressing this matter, given that many of the underlying solutions would require a focus on issues such as the development of domestic implementing legislation for the Convention, when the goal is for all Convention Parties to eventually become Protocol Parties.

7 EXAMINATION OF REPORTS RECEIVED UNDER ARTICLES 9.4.2 AND 9.4.3 OF THE PROTOCOL

The Group received only one additional report under this heading, from New Zealand. It noted that this document and the link to New Zealand's national legislation could be of great interest to other countries or Parties wishing to develop national legislation to implement the Protocol. The Group **recommended** that reports received under these provisions should be placed on the London Convention and Protocol website alongside links to national legislation, in their original language. This information will enable the Compliance Group and the B2C Project to better target technical assistance in the area of legislative development.

8 CONSIDERATION OF COMPLIANCE ISSUES RELATED TO THE "BARRIERS TO COMPLIANCE" PROJECT

8.1 The Group thanked the Chair of the B2C Steering Group, Mr. Patrick Cotter, for participating in the full meeting of the Compliance Group and supporting its work, particularly its role in compliance promotion.

8.2 The B2C Chair agreed that the two groups should work jointly on a proposal for funding under the B2C Project to support the development of national implementing legislation by current Protocol Parties or by prospective Protocol Parties, subject to the availability of funds and a formal request for assistance. The Compliance Group therefore **recommended** that this be included as part of its work programme.

9 EXAMINATION OF HOW TO MAKE THE GUIDANCE ON NATIONAL IMPLEMENTATION OF THE PROTOCOL A MORE EFFECTIVE TOOL FOR PROSPECTIVE PARTIES

9.1 Professor Hans Lammers presented paper LP-CG 3/10 which he had authored during the intersessional period on the utility of developing commentaries/an explanatory report about the Protocol in order to provide support for Parties' implementation. He noted that over the years, the Protocol had developed a number of very useful guidance documents to support implementation, including the Guidance on National Implementation of the Protocol. After discussion, during which it was noted that development of commentaries can sometimes lapse into re-negotiation of a treaty's provisions, it was decided that there are sufficient guidance documents without the need for commentaries to be developed. The Group thanked Professor Lammers for his excellent paper.

9.2 The Group confirmed its availability to assist the Scientific Groups in the ongoing project by the Secretariat to develop a "How to do it" manual for the implementation of the Protocol.

9.3 Professor Lammers also presented a paper prepared by the Secretariat on the issue of the feasibility of including the *travaux préparatoires* of the London Convention and Protocol on the website. He noted the role of *travaux* as a supplementary means of treaty interpretation, and pointed the Group to the outline of documents that was prepared by the Secretariat for the development of the Protocol. After discussion it was recommended that the outlined Protocol documents be included on the LC/LP website under the title of "Historical Documents in the development of the 1996 Protocol". As regards the Convention, it was agreed to further explore the viability of including these older documents on the website.

10 FUTURE WORK PROGRAMME OF THE COMPLIANCE GROUP UP TO AND INCLUDING ITS 4TH SESSION IN 2011

The Group reviewed its ongoing work programme 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 raised by the LP Scientific Group;
- .4 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; to identify options to address those factors; and to make recommendations for improving the rate of reporting under the Protocol;
- .5 examine reports received under LP Articles 9.4.2 and 9.4.3;
- .6 explore the viability of making the historical documents related to the development of the London Convention available on the LC/LP website;
- .7 contribute to the work of the Correspondence Group on dumping reporting;
- .8 develop appropriate materials and inputs regarding its role in compliance promotion; and
- .9 draft a proposal jointly with the B2C Steering Group to promote the development of implementing legislation by Protocol Parties and prospective Parties.

11 ANY OTHER BUSINESS

Mr. Cotter, the Chair of the B2C Steering Group, noted that paper LC 32/7/1 regarding evaluation questionnaires for technical assistance activities would be presented to the governing bodies and that he would be requesting the input of the Compliance Group to this document.

ANNEX 10

**FOLLOW-UP QUESTIONNAIRE FOR REGIONAL AND/OR
NATIONAL WORKSHOPS ON THE PROMOTION OF THE LONDON PROTOCOL AND
ON THE PREVENTION OF MARINE POLLUTION**

Workshop Title: _____

Workshop Dates: From: _____ To: _____

Workshop Location: City: _____ Country: _____

Name of Participant: _____

Introduction

You, or someone you supervised, attended the above-named Workshop recently. As the participant has been back working for some months since the Workshop, we would like to ask him/her and their supervisor about the impact of the training event on the participant and the participant's job, and, more broadly, the impact on the movement of your country towards becoming a party to the London Protocol.

Please complete this Workshop follow-up form as carefully as you can. Your comments will be used by the London Convention and Protocol Secretariat and the Governing Bodies of the London Convention and Protocol to evaluate the effectiveness of workshops and to determine the content of future workshops. Please email the completed questionnaire(s) to: the London Convention and Protocol Secretariat at: ekleverlaan@imo.org.

This questionnaire consists of two parts.

Part I should be completed by the supervisor.

Part II should be completed by the participant. If your answers are longer than the space offered in this questionnaire, please use a separate sheet. The participant will be asked some questions about the work they have been doing since attending the training event, changes in the job that may have happened as a result of the training event, its benefits, and if the participant shared knowledge acquired at the training event. The questionnaire will then ask the participant to look back at the Workshop and try to establish whether the Workshop itself and the material were effective in the work environment since the event and whether it is assisting in the move of your country towards becoming a party to the London Protocol.

All questionnaires given to us by the participants and their supervisors will be kept confidential at the LC/LP Secretariat and will only be used to improve the organization and presentation of future workshops on ocean dumping issues. Results of all questionnaires will be summarized only and no individuals will be able to be identified. Therefore you should feel able to express your views freely.

PART I: TO BE COMPLETED BY THE SUPERVISOR

Please place an "X" inside the bracket to show your response to the questions. If your answers are longer than the space provided, include your additional responses on attached sheets.

Name of Supervisor: _____

Position held in the organization: _____

A member of your staff named in Part II attended an IMO Office for the London Convention and Protocol training event recently. We would be most interested to learn the usefulness of the course in helping your organization. The Secretariat wants to improve its training support to organizations such as yours and any comments would be most welcome. Kindly tick the "Yes" or "No" boxes in the questions below and provide comments as far as possible. All the information you give us will be kept confidential by the LC/LP Secretariat. Therefore you should feel able to express your views freely.

Impact of the training event on the participant, colleagues and organization

1. In your opinion, has the participant improved his/her abilities with respect to duties associated with protection of the marine environment as a result of his/her participation in the training event? Yes [] No []

If you have ticked the "Yes" box, please specify in what way. If you have ticked the "No" box, please explain why not.

2. Has the participant been effective in sharing the acquired knowledge or skills from the training event with colleagues? Yes [] No []

If you have ticked the "Yes" box, please specify in what way. If you have ticked the "No" box, please explain why not.

3. Has the participant applied and used the knowledge or skills acquired from the training event to improve the work of your organization? Yes [] No []

If you have ticked the "Yes" box, please specify in what ways and how it improved the work of your organization. If you have ticked the "No" box, please explain why not.

4. Has the participant been assigned new tasks upon returning to work to apply the knowledge or skills acquired from the training event to improve the work of your organization and/or voluntarily initiated action to implement the knowledge acquired at the training session? Yes [] No []

If you have ticked the "Yes" box, please specify what this action was and if you have ticked the "No" box, please explain why not.

5. Is your organization considering changes in your training curriculum as a result of knowledge acquired from the training event? Yes [] No []

If you have ticked the "Yes" box, please specify the changes and the improvements in your organization's training curriculum. If you have ticked the "No" box, please explain why not.

Future Activities to develop the capacity of your organization

6. Is there any need for further assistance from the LC/LP Secretariat in the fields covered by the training event? Yes [] No []

If "Yes", could you please be precise about the ways in which the LC/LP Secretariat can help your organization.

7. If your country is not presently a party to the London Protocol, do you feel that the workshop has better prepared your country to move towards becoming a party? Yes [] No []. Why or why not?

Supervisor's Signature: _____ Date Completed: _____

THANK YOU FOR YOUR PARTICIPATION IN THE FOLLOW-UP EVALUATION!

PART II: TO BE COMPLETED BY THE PARTICIPANT

Please place an "X" inside the bracket to show your response to the questions. If your answers are longer than the space provided, include your additional responses on attached sheets.

Background of your current work

1. Are there any significant changes in your position, responsibilities, or duties as a result of the training? Yes [] No []

If you have ticked the "Yes" box, please specify your new position and the changes in your responsibilities or duties.

Impact of the training event on the participant, colleagues and organization

2. Did you benefit professionally from the training event? Yes [] No []

If you have ticked the "Yes" box, please specify in what ways you have benefitted from the training. If you have ticked the "No" box, please explain why not.

3. Have you been able to share your acquired knowledge or skills from the training event with colleagues? Yes [] No []

If you have ticked the "Yes" box, please specify in what ways the knowledge was transferred. If you have ticked the "No" box, please explain why not.

4. Have you been able to apply and use the knowledge or skills acquired from the training event to contribute in improving the work of your organization?
Yes [] No []

If you have ticked the "Yes" box, please specify in what ways you have applied the knowledge and how it helped the work of your organization. If you have ticked the "No" box, please explain why not.

5. Have you taken any new action(s) and/or been assigned new tasks upon returning to work to apply the knowledge and skills acquired from the training event and/or initiated action(s) to implement the recommendations, agreements, or resolutions provided during the training event, if any? Yes [] No []

If you have ticked the "Yes" box, please specify what action(s) was (were) taken. If you have ticked the "No" box, please explain why you were not able to take any action(s).

6. If your country is not presently a party to the London Protocol, do you feel that the workshop has better prepared your country to move towards becoming a party? Yes [] No []. Why or why not?

7. If a "roadmap to joining the Protocol" was developed at your workshop, what success has your country had in implementing the "roadmap"?

8. What further training or resources would you require for your country to move towards becoming a party to the Protocol? (e.g., development of implementing legislation, clarification of Protocol obligations, etc.)

9. Are there any other barriers for your country to becoming a party to the Protocol that you would like to mention?

10. Are there any further comments you would like to make to improve future workshops, based on your experience in applying the information at your job? Yes [] No []

Workshop Specific Questions

Evaluation Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I was able to apply the knowledge learned at the workshop to real situations that I have to deal with in my country and achieve valuable results or programme goals.	[]	[]	[]	[]	[]
2. The materials distributed at the workshop assisted me in performing my work in a practical and effective way.	[]	[]	[]	[]	[]
3. The information provided by the trainers improved my working knowledge about ocean dumping and I have applied the knowledge at my work.	[]	[]	[]	[]	[]
4. The quality of instruction was good and provided a foundation for my work.	[]	[]	[]	[]	[]
5. The quality of the presentation materials was appropriate for the workshop and could be applied at my job.	[]	[]	[]	[]	[]
6. Briefing my supervisor and colleagues on the results of the workshop and the workshop materials is a logical next step for sharing my experiences gained from the Workshop.	[]	[]	[]	[]	[]
7. Overall, I would recommend the workshop to other colleagues for training.	[]	[]	[]	[]	[]

Participant's Signature: _____ Date Completed: _____

THANK YOU FOR YOUR PARTICIPATION IN THE FOLLOW-UP EVALUATION!

ANNEX 11

QUESTIONNAIRE ON CHARACTERISTICS OF SPOILT CARGO AND ITS DISPOSAL

QUESTION 1: Provide Name of Country or Organization Responding to this Questionnaire

Please also provide a Point of Contact and contact information in the event clarification of responses is sought.

QUESTION 2: Types of Spoilt Cargo

(a) What types of cargo spoilage on board vessels are routine and predictable?

Please include the underlying causes for such routine and predictable spoilage and indicate whether the spoilage typically occurs while in port or while at sea. For example, is there a typical number or percentage of livestock that will routinely die on an average voyage? Please indicate length of voyage for any examples.

(b) What types of spoilage are non-routine and non-predictable?

Please describe the underlying causes for such non-routine spoilage (e.g., collision damage; equipment failure; infectious disease in livestock, etc.).

Note -- in responding to the further questions below, please clearly indicate whether the information being provided relates to routine or non-routine spoilage.

QUESTION 3: What are the typical characteristics of spoilt cargo disposed of at sea from vessels?

Please provide specific examples of actual spoilt cargoes discharged at sea and describe their basic characteristics (e.g., whether the material is organic, inorganic, livestock, whether it may float or sink, whether it may include chemical contamination, etc.).

QUESTION 4: What quantities are typical of spoilt cargo disposal at sea from vessels?

Please indicate (on a per voyage basis for routine spoilage or a per event basis for non-routine spoilage) the typical number of individual units disposed of at sea (for example, 5 livestock) or typical tonnage (for example, 30 metric tonnes of grain) and how often such disposal occurs per year.

QUESTION 5: What are the means by which crew typically becomes aware of spoilt cargo? Are there scenarios or management practices that increase (or decrease) the likelihood of crew discovering spoilt cargo?

In responding, please indicate whether discovery of spoilt cargo typically occurs at sea or when the vessel is docked in port and preparing to offload the cargo, or is refused for offloading by port State officials.

QUESTION 6: What are the typical reasons for disposing of spoilt cargo at sea? What are the risks of disposal at sea to both the environment and to coastal communities, and how are these risks assessed before disposal?

In discussing reasons for disposal at sea, please indicate whether such reasons include lack of onboard storage capacity and/or lack of adequate port reception facilities and what risks to vessel safety or crew health might result from retention on board.

QUESTION 7: Where does disposal of spoilt cargo at sea typically occur?

Please indicate whether such disposal typically takes place within the jurisdiction (e.g., EEZ) of the vessel's flag State, of the State where the cargo was loaded, of another coastal State, or on the high seas. Be as descriptive as possible, such as providing information on average distance from shore, typical depth of water, and names of water bodies involved.

QUESTION 8: What are the current management practices and technologies used to minimize the need for disposal of spoilt cargo at sea? Are there additional management practices and technologies not currently being used that may be transferrable to spoilt cargo management on board vessels?

Please describe methods to avoid or minimize the disposal of spoilt cargo at sea, including methods currently in use and any other methods that might be practicable for use in the future. As relevant, please discuss any practical difficulties encountered with use of current technologies and/or any impediments or constraints to development or adoption of new technologies for shipboard use.

QUESTION 9: What are the current management practices and technologies used to control environmental or health impacts from spoilt cargo disposal at sea or retaining spoilt cargo on board? Are there additional management practices and technologies not currently being used that may be transferrable to spoilt cargo management on board vessels?

Please describe methods to avoid or reduce impacts to the environment or human health associated with disposal at sea and retention on board of spoilt cargo, including methods currently in use and any other methods that might be practicable for use in the future. As relevant, please discuss any practical difficulties encountered with use of current technologies and/or any impediments or constraints to development or adoption of new technologies for shipboard use. For example, are current shipboard incinerators adequate or appropriate for treatment?

QUESTION 10: What legal regimes are being used to ensure disposal of spoilt cargo at sea is being controlled and reported to the appropriate authorities?

Please provide any additional or clarifying information that may not already be contained in your reports to the LC/LP on permits issued, including a description of the legal controls (domestic or international) being applied to control disposal of spoilt cargoes at sea. For Coastal States, please also indicate and describe if your competent authorities have been informed of intended spoilt cargo disposal within your EEZ in order to obtain permission for such disposal, and the form of such permission, if granted. In describing relevant legal regimes, please describe what, if any recordkeeping practices apply with respect to disposal of spoilt cargo at sea and/or experience with shipboard practices as to such records.

ANNEX 12

**JOINT WORK PROGRAMME OF THE SCIENTIFIC GROUPS
(34TH, 35TH AND 36TH MEETINGS)**

	Description	2011	2012	2013	TARGET COMPLETION DATE
1	WASTE ASSESSMENT GUIDANCE:				
	- Guidance for the development of Action Lists and Action Levels for Annex 1 wastes (except for dredged material and CO ₂)	XXX	XXX		2012
	- Experience with practical implementation of the WAGs (including CO ₂ Sequestration)	XX	XX	XX	ONGOING
	- Review of the 2007 CO ₂ Sequestration Guidelines in the light of the amendment to Article 6 of the LP	XX	XX		2012
	- Review of the framework and approach to all the WAGs	XXX	XXX	X	2013
	- Review of the Specific Guidelines for dredged material	XXX	XXX		2012
2	MONITORING AND ASSESSMENT:				
	- Reports and assessment of monitoring	XXX	XXX	XXX	ONGOING
	- Research results, new techniques, strategies, etc.	XX	XX	XX	ONGOING
	- Contribution to the UN Regular Process	X	X	X	ONGOING
3	CO₂ SEQUESTRATION:				
	- Experiences with CO ₂ sequestration technologies and their application	XX	XX	XX	ONGOING

	Description	2011	2012	2013	TARGET COMPLETION DATE
4	MARINE CLIMATE ENGINEERING:				
	- Ocean Fertilization	XXX	XXX	XXX	ONGOING
	- Keep under review the marine scientific implications of marine-based climate engineering	X	X	X	ONGOING
5	TECHNICAL CO-OPERATION AND ASSISTANCE:				
	- WAG Tutorial – Extension for low-technology techniques when assessing dredged material;	XXX			2011
	Development of a communications plan for this Extension	XX	XXX		2012
	- "Barriers to Compliance" project – Contribute to the Implementation Plan	XX	XX	XX	ONGOING
	- Regional and National Workshops	XXX		XXX	BIENNIAL
	- Technical advice to specific countries	XX	XX	XX	ONGOING
	- Update TC-Strategy and Action Plan	XX	XX	XX	ONGOING
	- Development of a London Protocol Manual	XX	XXX		2012
	- Development of a communication and outreach Plan	XX	XX	XX	2012
	- Improvement/Update of the LC Website	XX	XX	XX	ONGOING
6	HABITAT MODIFICATION/ENHANCEMENT:				
	- Beneficial use of waste materials	XX	XX	XX	ONGOING
	- Experience with habitat enhancement	XX	XX	XX	ONGOING
7	DUMPING REPORTS:				
	- Review and improvement of reporting	XXX	XXX	XXX	ONGOING
	- Database development	XXX			2011
	- Collaboration with UNEP Regional Seas on reporting	XX	XX	XX	ONGOING

	Description	2011	2012	2013	TARGET COMPLETION DATE
	- Review of the reporting requirements	XXX	XX		2011
8	COASTAL MANAGEMENT AND PREVENTION OF MARINE POLLUTION:				
	- Cooperation with MEPC:				
	.1 Ship hulls' scraping – the deposit of anti-fouling paint debris and fouling biota	XX	XX	XXX	2013
	.2 Keep spoilt cargoes management under review:	X	X	X	ONGOING
	- [Development of outreach strategy and material for spoilt cargoes management together with MEPC. ²³]		[XX]	[XX]	2011
	- Policy coordination with MEPC on discharge/dumping of animal carcasses	XXX			2011
	- Cooperation with the UNEP Global Programme of Action with regard to:				
	.1 the discharge of mine tailings into coastal and oceanic waters and the risks of industrial wastes kept in storage near the coast	XXX	XXX	X	2012
	.2 Physical alteration/habitat destruction		XX	XX	2013
	.3 Marine litter		XX	XX	2013
9	SCIENCE/TECHNICAL SESSION: ISSUE FOCUSED DAY	XX	XX	XX	ONGOING
10	REVIEW OF JOINT WORK PROGRAMME	XX	XX	XX	Update annually

Legend: XXX high priority item
 XX medium priority item
 X low priority item

²³ This activity is put on hold pending the outcome of the policy coordination with MEPC on the animal carcasses issue.

ANNEX 13

LIST OF SUBSTANTIVE ITEMS FOR INCLUSION IN THE AGENDA FOR THE 33RD CONSULTATIVE MEETING AND 6TH MEETING OF CONTRACTING PARTIES

- 1 Consideration of the report of the Scientific Groups
 - Marine Climate Engineering (including Ocean fertilization)
 - Waste assessment guidance
 - Monitoring and assessment
 - CO₂ sequestration in sub-seabed geological formations
 - Dumping reports
 - Technical co-operation and assistance
 - Cooperation with the Compliance Group
 - Habitat modification/enhancement
 - Coastal management and prevention of marine pollution
 - New Science day topic
 - Review of the Joint Work Programme

- 2 Compliance issues
 - Report of the Compliance Group
 - Reporting and findings of 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 Monitoring for the purposes of the London Convention and Protocol
 - Cooperation with assessments by other organizations (e.g., the UN Regular Process)
 - Examination of reports received under LP Articles 9.4.2 and 9.4.3

- 4 Technical co-operation and assistance
 - Long-term TC strategy and the implementation thereof
 - Removal of barriers to compliance (B2C) project – implementation plan and progress
 - Low-tech extension to Waste Assessment Guidance Tutorial
 - State of the Sea Dumping Report
 - SEA-WASTE Network phase II
 - Results of workshops – bilateral, national, regional
 - Concrete technical advice, projects and activities

- 5 Ocean fertilization
 - Results of intersessional work

- 6 CO₂ sequestration in sub-seabed geological formations
 - Amendments to the Guidance documents on CO₂ sequestration in sub-seabed geological formations
 - Experiences with CO₂ sequestration projects
 - 7 Interpretation of the London Convention and Protocol
 - Collaboration with MEPC on "boundary" issues – Spoilt Cargoes
 - Collaboration with UNEP-GPA -riverine and pipeline mine tailings
 - 8 Matters related to the management of radioactive wastes
 - 9 Outreach to prospective new Contracting Parties and relations with other organizations in the field of marine environmental protection
 - Outreach Strategy
 - 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
 - 10 Administrative arrangements and future work
 - Report on the LC/LP Technical Co-operation Trust Fund
 - Review of the Joint Long-term Programme (JLTP)
-