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FIFTEENTH CONSULTATIVE MEETING OF
CONTRACTING PARTIES TO THE
CONVENTION ON THE PREVENTION
OF MARINE POLLUTION BY DUMPING
OF WASTES AND OTHER MATTER
9-13 November 1992
Agenda item 16

REPORT OF THE FIFTEENTH CONSULTATIVE MEETING*

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- * The Fifteenth Consultative Meeting agreed to replace the informal title "London Dumping Convention" and the acronym "LDC" by "London Convention 1972" and "LC 1972" respectively (LC 15/16, paragraph 4.25). This report reflects that decision and the document references used from now on will be LC

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1 INTRODUCTION

1.1 The Fifteenth Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, convened in accordance with Article XIV(3)(a) of the Convention, was held at IMO Headquarters, London from 9 to 13 November 1992 under the chairmanship of Mr. D. Tromp (Netherlands). Mr. A. Sielen (United States) and Ambassador G.E. do Nascimento e Silva (Brazil) were Vice-Chairmen.

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

ARGENTINA	MEXICO
AUSTRALIA	MONACO
BELGIUM	MOROCCO
BRAZIL	NAURU
CANADA	NETHERLANDS
CHILE	NEW ZEALAND
CHINA	NIGERIA
COTE D'IVOIRE	NORWAY
CUBA	PANAMA
CYPRUS	PAPUA NEW GUINEA
DENMARK	PHILIPPINES
EGYPT	POLAND
FINLAND	RUSSIAN FEDERATION
FRANCE	SOLOMON ISLANDS
GERMANY	SOUTH AFRICA
GREECE	SPAIN
ICELAND	SWEDEN
IRELAND	SWITZERLAND
ITALY	UKRAINE
JAPAN	UNITED KINGDOM
KIRIBATI	UNITED STATES
MALTA	VANUATU

1.3 A representative from the following Associate Member of IMO attended the Meeting:

HONG KONG

1.4 Observers from the following States that are not Contracting Parties to the Convention attended the Meeting:

ALGERIA	SAUDI ARABIA
INDIA	SYRIA
LIBERIA	VENEZUELA
REPUBLIC OF KOREA	

1.5 Representatives from the INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) and the following United Nations Organizations attended the Meeting:

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

1.6 Observers from the following intergovernmental organizations attended the Meeting:

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT/NUCLEAR ENERGY
AGENCY (OECD/NEA)
OSLO COMMISSION AND PARIS COMMISSION
ASIAN AFRICAN LEGAL CONSULTATIVE COMMITTEE

1.7 Observers from the following international non-governmental organizations also attended the Meeting:

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
EUROPEAN COUNCIL OF CHEMICAL MANUFACTURERS' FEDERATIONS (CEFIC)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
GREENPEACE INTERNATIONAL
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES
(IUCN)
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES (PIANC)
OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P FORUM)
ADVISORY COMMITTEE ON PROTECTION OF THE SEA (ACOPS)
CENTRAL DREDGING ASSOCIATION (CEDA)

Opening of the Meeting

1.8 In opening the proceedings the Chairman welcomed all participants to the Fifteenth Consultative Meeting.

1.9 The Chairman noted that this year marked the twentieth anniversary of the adoption of the London Convention 1972 and that Contracting Parties to the Convention had made substantial progress in protecting the marine environment from the hazards of dumping at sea. He also noted that 1992 marks 20 years since the Stockholm Conference and is the year the United Nations Conference on Environment and Development was held in Rio.

1.10 The Chairman acknowledged that the progress achieved within the framework of the London Convention 1972 towards the protection of the marine environment had been due to the very active participation of Contracting Parties and their willingness to work closely together in order to solve problems related to the control of waste disposal at sea. Contracting Parties also recognised the valuable advice and assistance of various UN, intergovernmental and non-governmental organizations.

1.11 The Chairman observed that the Consultative Meeting was now at the stage of charting a course for the London Convention 1972 for the next 20 years. This course would be greatly influenced by the precautionary approach which calls upon Contracting Parties to improve the effectiveness of the Convention within the broader context of good waste management. It also called for avoidance of pollution through rigorous controls over the emission and dispersion of contaminating substances, and the use of scientifically-based procedures for selecting appropriate methods of waste disposal.

Address of welcome

1.12 In his welcoming address, Mr. O. Khalimonov, Director of the Marine Environment Division of IMO, stated that Mr. W. O'Neil, the Secretary-General of IMO was attending the Eleventh International Symposium on the Transport of Dangerous Goods, being held in Japan. He noted that the Secretary-General regretted not being able to be present for the opening of the Fifteenth Consultative Meeting of the London Convention 1972, which also marked the twentieth anniversary of the Convention. Mr. O'Neil extended his best wishes for a successful meeting and looked forward to greeting the Meeting personally when he returned from Japan, which he did on Thursday, 12 November 1992.

1.13 The Director of the Marine Environment Division informed the Meeting that IMO had temporarily lost the services of Mr. Manfred Nauke due to an unfortunate accident. Fortunately, however, the prognosis for his recovery was good.

1.14 In response to this situation the Governments of Canada and the United States had kindly provided the assistance of three of their officers, Mr. John Karau (Canada) and Mr. Darrell Brown and Mr. Bob Engler (United States), to assist the Secretariat with the preparation and the conduct of the meeting of IGPRAD and the Consultative Meeting. Mr. Khalimonov expressed appreciation for the considerable support extended by the Governments of Canada and the United States. Appreciation was also extended to the Netherlands which had recently seconded Mr. René Coenen to the Secretariat.

1.15 The Chairman stated on behalf of the Meeting that he was thankful that the prognosis for Manfred Nauke's recovery was good, and wished him a speedy recovery. The Chairman also expressed appreciation to the Governments of Canada, the Netherlands and the United States for the support they had given.

Adoption of the Agenda

1.16 The agenda for the Meeting (LDC 15/1) as adopted, is shown at annex 1. This includes, under each agenda item, a list of documents prepared for consideration under the respective agenda items. The Meeting also agreed on a timetable and schedule for its work (LDC 15/1/1).

Participation of intergovernmental organizations and international non-governmental organizations

1.17 The Secretary informed the Meeting that in addition to the international organizations the Fourteenth Consultative Meeting had decided to invite the Asian African Legal Consultative Committee to attend the Fifteenth Consultative Meeting on a provisional basis. That organization will be making a formal application for observership status at the Sixteenth Consultative Meeting.

1.18 The Meeting agreed to invite intergovernmental organizations to the Sixteenth Consultative Meeting and to intersessional meetings of its advisory bodies, as follows:

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD)
COMMISSION OF THE EUROPEAN COMMUNITIES (EEC)

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA (ICES)
OSLO COMMISSION
PARIS COMMISSION
HELSINKI COMMISSION
PERMANENT COMMISSION FOR THE SOUTH PACIFIC (CPPS)
SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMME (SPREP)

1.19 The Meeting decided that the following international non-governmental organizations should be invited to attend, in an observer capacity, the Sixteenth Consultative Meeting and intersessional meetings of its advisory bodies as follows:

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
EUROPEAN COUNCIL OF CHEMICAL MANUFACTURERS' FEDERATIONS (CEFIC)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
GREENPEACE INTERNATIONAL
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL
RESOURCES (IUCN)
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES (PIANC)
OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P FORUM)
ADVISORY COMMITTEE ON PROTECTION OF THE SEA (ACOPS)
INTERNATIONAL MARITIME BUREAU (IMB)
ASSOCIATION OF PACIFIC ISLAND LEGISLATURES (APIL)
CENTRAL DREDGING ASSOCIATION (CEDA)

2 STATUS OF THE LONDON CONVENTION 1972

Contracting Parties to the Convention

2.1 The Consultative Meeting was informed of the reports of the Secretary-General (LDC 15/2) on the status of the London Convention 1972 and of the 1978 amendments concerning the settlement of disputes. The Meeting noted that IMO had been notified of accessions to the Convention by Egypt and Vanuatu, and the entry into force of the Convention for Croatia in the intersessional period, and that, as of 22 October 1992, a total of seventy Contracting Parties had ratified or acceded to the Convention. The Meeting also acknowledged that during the intersessional period Monaco and Norway have deposited an instrument of acceptance for the 1978 amendments concerning the settlement of disputes, bringing the total number of Contracting Parties having ratified these amendments to seventeen. Contracting Parties were reminded that acceptance of two thirds of all Contracting Parties (currently 46 of 70) were needed for the amendments to enter into force.

2.2 The Meeting recognized the efforts made by the Secretary-General to increase awareness of the London Convention 1972 by corresponding with the Permanent Representatives to IMO in London, requesting them to contact their respective Ministries concerning ratification of the Convention or acceptance of the 1978 Amendments. The Secretariat advised the Meeting of various meetings, seminars and conferences at which efforts were also expended to increase awareness and ratification of the London Convention 1972.

2.3 The Meeting urged the Secretary-General to continue his efforts to obtain wider acceptance of the London Convention 1972. In this connection, it was emphasized that non-Contracting Parties should be asked to notify IMO of

any problems they might have in implementing the requirements of the London Convention 1972. The Secretary-General was further requested to draw the attention of Governments to the fact that support can be provided by Contracting Parties and IMO, pursuant to Article IX of the Convention, concerning training, supply of equipment and advice on waste management issues.

2.4 The Meeting noted the list of national Administrations of Contracting Parties responsible for waste disposal at sea (LDC.2/Circ.309). Contracting Parties were invited to revise or complete the list by notifying the Secretariat of changes at their earliest convenience.

2.5 The Chairman noted that the Fourteenth Consultative Meeting agreed that a special twentieth anniversary fund should be established for the Secretariat. The Secretariat reported that \$28,000 had been contributed to date from the Netherlands, Portugal, South Africa and the United Kingdom. Funds have been dedicated for the purchase of computer equipment for the Secretariat and for carrying out the Global Waste Survey. It was also stated that if additional funds were made available these could be directed to support technical co-operation and assistance programmes. The delegation of China provided a contribution of \$5,000 to the fund and Canada announced a forthcoming C\$25,000 contribution.

2.6 The Chairman expressed his appreciation for these contributions and encouraged other Contracting Parties to support the work of the Convention in a similar manner.

2.7 The Meeting discussed the possibility of holding Consultative Meetings or meetings of the Scientific Group outside of IMO Headquarters in different locations throughout the world as a means of promoting the wider ratification and implementation of the Convention. The Secretariat was requested to prepare a budgetary assessment to hold meetings outside IMO and Contracting Parties were invited to consider offering to host such meetings.

3 REVIEW OF THE OUTCOME OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (UNCED)

3.1 The Secretariat introduced two documents, the Report of the Outcome of the United Nations Conference on Environment and Development (LDC 15/3) and the Rio Declaration on Environment and Development (LDC 15/3/Add.1). The Secretariat summarized the AGENDA 21 recommendations which could be of particular relevance to the future work and long-term strategy of the Convention as follows:

- applying preventive, precautionary and anticipatory approaches;
- supporting wider ratification, implementation and participation in relevant conventions on dumping at sea, including early conclusion of a future strategy for the London Convention 1972;
- taking appropriate steps to stop ocean dumping and incineration of hazardous substances;
- assessing the adequacy of existing regulatory measures to address discharges, emissions and safety for offshore oil and gas platforms;

- completing studies on replacing the current voluntary moratorium on disposal of low-level radioactive wastes at sea by a ban, taking into account the precautionary approach, with a view to taking a well-informed and timely decision on the issue; and
- providing adequate financial and technical resources to assist developing countries in preventing and solving problems associated with activities that threaten the marine environment.

3.2 The observer from Greenpeace International introduced his Organization's paper on UNCED issues pertinent to the LC 1972 (LDC 15/3/1). In his opinion UNCED, generally, failed to respond effectively to the crises of environment and development. He observed that several "action" items in AGENDA 21 are pertinent to LC 1972, including those related to the precautionary action approach, clean production, transfer of technology and financial resources. He stated that AGENDA 21 contained agreed wording "to stop ocean dumping and incineration of hazardous substances" (17.30(b)(ii)) and to "expedite work to complete (IGPRAD) studies on replacing the current voluntary moratorium on disposal of low-level radioactive wastes at sea by a ban ..." (22.5(b)) and that these were of particular importance in relation to the proposed amendments to LC 1972 that have been submitted by Denmark (LDC 15/5/1) and co-sponsored by Norway and Iceland.

3.3 The observer from Greenpeace International, in introducing his Organization's report on post-UNCED concerns and recommendations (LDC 15/INF.19), noted that, among other matters, the report addresses issues related to economic change, reforming trade and commerce, the transformation of technology and resource use, the protection of cultural and biological diversity and the need for political transformation.

3.4 Recognizing the close relationship between the developments at UNCED and the future strategy of the Consultative Meeting, it was agreed that this review should be incorporated into the report of the action taken under agenda item 4, and the decisions taken relating to UNCED are reflected therein.

3.5 The meeting agreed that the relevant chapters of UNCED AGENDA 21 were Chapters 17, 20, 22, 31, 34, 35, 38 and 39, of which the most pertinent was Chapter 17 on the Oceans.

3.6 As part of the review, the meeting prepared an informal list of relevant articles from these Chapters for the information and use of the participants.

4 LONG-TERM STRATEGY FOR THE CONVENTION

4.1 The Consultative Meeting received no specific documents for this agenda item but agreed that the decisions to be considered under agenda items 3 and 5 would have a close bearing on the future strategy.

4.2 Following a brief discussion in plenary, the Chairman established a Working Group on the Long-Term Strategy for the Convention to continue this work, with the terms of reference established at the Fourteenth Consultative Meeting (LDC 14/16, paragraph 7.15). In addition, the Chairman asked the Working Group to take the review of the outcome of UNCED (agenda item 3) into account in their deliberations.

4.3 The Working Group on the Long-Term Strategy for the Convention met from 9 to 12 November 1992 under the chairmanship of Mr. G.L. Holland (Canada) and with the participation of Australia, Belgium, China, France, Germany, Japan, the Netherlands, New Zealand, Norway, Poland, Solomon Islands, Spain, the United Kingdom and the United States, UNEP and CEFIC, Greenpeace International, IUCN and E & P Forum and reported back to the meeting.

4.4 It was pointed out that the decision to be taken during the Fifteenth Consultative Meeting on the amendments to the Convention would have a major influence on the future strategy. It was therefore accepted that the work on the long-term strategy at the Meeting would produce an interim report on the implications of UNCED for the Convention, some thoughts on the future development of the Convention and an update of the action plan prepared for the last Consultative Meeting (LDC 14/16).

4.5 The Meeting agreed that, collectively, the Contracting Parties represented a significant source of experience and expertise, both in the area of marine pollution prevention and in the application of a global intergovernmental agreement in this area. It was recalled that at the Thirteenth Consultative Meeting resolution LDC.40(13) was adopted that offered assistance to UNCED through the submission of a declaration to the UNCED process. It was decided that the offer made to UNCED should be reiterated by the Consultative Meeting, now that the Commission on Sustainable Development was being established, through a letter from the Secretariat to the new Commission. The letter should draw attention to the relevance of LC 1972 to UNCED responsibilities, the contribution that could be made by LC 1972, and the willingness of LC 1972 to interact as required with future implementation of UNCED action.

4.6 Specific actions that could be debated, undertaken or supported by the Consultative Meeting appear in the action list in annex 2 that has been updated from the Fourteenth Consultative Meeting (LDC 14/16, annex 8). In addition, a study of AGENDA 21 from UNCED revealed the following general efforts that should be considered in the development of the future strategy for the London Convention 1972.

Technical co-operation

4.7 It was agreed that one of the most important aspects of the Articles of the Convention to be addressed was to enhance the area of technological co-operation. Although this had been on the agenda of the London Convention 1972 for twenty years, little progress had been made. It was emphasized that the experience of Contracting Parties in areas relating to the marine disposal of non-hazardous wastes (e.g. dredging and sewage disposal), the development of waste management practices such as the Waste Assessment Framework and the environmental assessment of the impact of activities in the marine environment, should be made easily accessible to countries requiring assistance in these areas.

4.8 The Meeting agreed that the Consultative Meeting should submit, to the new UN Commission on Sustainable Development and the implementing agencies of the Global Environment Facility (GEF), a programme of technical assistance activities within the area of competence of LC 1972 and resulting from UNCED decisions, which could be funded under the GEF.

4.9 It was stressed that assistance should be equally accessible to States which are not Contracting Parties to LC 1972 so that they would be assisted in meeting the requirements of the Convention. In this respect, increased membership, which remains a high priority for the Convention, would be encouraged through a greater awareness of the benefits that would be derived from ratifying the Convention.

4.10 The Consultative Meeting agreed that it would do more in this area through the designation and support of technical experts to assist developing countries, both Contracting and non-Contracting Parties.

4.11 The Consultative Meeting would also co-operate with UNEP to find mechanisms to provide, especially to developing countries, legal information, clean technologies, waste management practices and alternative disposal options.

4.12 An important element of this area that was stressed in each chapter of AGENDA 21 was "capacity building". Training of experts, institution establishment and the formulation of legal frameworks are examples that should be considered by the London Convention 1972.

4.13 The non-governmental bodies representing industrial associations reported that activities within their respective organizations were vigorously addressing waste management issues. The Meeting recognized the growing importance of this trend, not only from the point of view of technical assistance, but towards a more responsible and holistic attitude of industry to environmental and sustainable development goals.

4.14 The direct financial and human resource implications of these actions to the Secretariat, as well as the indirect needs within each developing country, must be addressed before much capacity building can be undertaken. In this regard and taking into account the results of the Global Waste Survey, the Secretariat should write to Contracting Parties requesting their advice and assistance in the above and should prepare a working paper for a future Consultative Meeting that examines all potential international and other funding sources, including new ones. Interested Contracting Parties and observers are encouraged to assist the Secretariat in the above work.

Land-based sources of marine pollution

4.15 The Meeting reiterated the view that "land-based sources of marine pollution" was an issue directly linked to the Convention. Although it was agreed that future developments on land-based sources of marine pollution should be closely linked to, and compatible with, the London Convention 1972, it was accepted that the thrust should be one of co-operation with the United Nations Environment Programme (UNEP) initiative rather than proceeding unilaterally. It was noted that AGENDA 21 called for an integration of programmes dealing with pollution affecting the coastal marine environment and that such a policy was fully consistent with the proposed Waste Assessment Framework (WAF) of the London Convention 1972. In particular, future actions on sewage sludge, industrial effluents and dredged materials would need to be treated as part of an integrated waste management approach. It was agreed that the Secretariat should write to UNEP expressing its interest in participating in the Conference on Land-Based Sources of Marine Pollution (LBSMP) which will be held in 1993.

Remediation

4.16 One area not explicitly covered by the present Convention was that of remediation or restoration of the marine environment that had been or was susceptible to the impact of past dumping activities. If this activity was to be incorporated into the Convention a future amendment would be required.

Co-operation with other UN Organizations

4.17 A key paragraph in AGENDA 21, outside the chapter on Oceans, appeared in the chapter on International Institutional Arrangements (38.4), wherein all UN Agencies are charged to play a key role within their respective competence. The instruction continues with a requirement for each agency to submit regular reports of their respective activities implementing AGENDA 21. This activity will generate a requirement on the Secretariat, but should also precipitate co-operation amongst Agencies.

4.18 In a similar vein, the Chapter 39 on International Legal Instruments and Mechanisms also addresses the requirement for developing countries to accede to intergovernmental conventions and encourages their implementation. An objective referred to specifically is that of ensuring an "effective, full and prompt implementation of legally binding instruments". In this regard, the Consultative Meeting agreed that a further examination of compliance within LC 1972 may be warranted.

4.19 The Meeting recognized that it had an opportunity to influence the policy guidance for future funding mechanisms under the UNCED follow-up actions.

4.20 Many other references in AGENDA 21 deal with the need for co-operation amongst UN agencies and organizations in delivering programmes dealing with the environment and development.

Public participation/awareness

4.21 It was agreed that public and political support was an area that must be strengthened if the London Convention 1972 was to be viable in the future. It was hoped that the computer equipment supplied as part of the anniversary fund would allow the Secretariat to produce material that could assist in this regard. A recognition, by the public, of the role of the Convention in protecting the health of the marine environment would be a beneficial step.

Science and technology

4.22 Most of the UNCED articles on Science and Technology apply generically to the Convention. UNCED recognized the need to introduce the best science and technology to the decision making process and a broader involvement of the science community in LC 1972 would be beneficial. In addition, the need for an adequate information archival and retrieval system was stressed.

4.23 The Meeting recognized that the discussion of the follow-up to UNCED had not yet been completed. Much of the work of the future UN Commission on Sustainable Development, covering the marine environment, would impact on the

London Convention 1972. It would be incumbent on the Consultative Meeting to input to, and to keep apprised of, the developments within the UN on this issue.

Other matters concerning the future development of the London Convention 1972

4.24 The observer from Greenpeace International introduced his organization's paper (LDC 15/5) which contained a draft resolution proposing that the informal name "London Dumping Convention" be changed, and he invited the meeting to consider that resolution.

4.25 The Meeting considered the perception, identified by several Contracting Parties and observers, that the informal name of the Convention (the London Dumping Convention 1972) itself gave an indication that Contracting Parties formed a "dumping club", and that a new name should be considered. Some participants suggested that the word "dumping" should be removed, others that, in reality, we were a "non-dumping" Convention. Finally, the meeting adopted the new informal title of the "London Convention 1972", abbreviated to "LC 1972", to be used in the future.

UN Convention on Law of the Sea (UNCLOS)

4.26 The relationship between the London Convention 1972 and UNCLOS (1982) is addressed in Article XIII of the London Convention 1972 and has been considered at previous consultative and intersessional meetings. UNCLOS, which has received 52 of the 60 ratifications required for its entry into force, contains provisions (e.g. Article 216) which will further the goals and objectives of the London Convention 1972. The Meeting requested the Secretariat to arrange, with the assistance of the UN Under Secretary, Office of Legal Affairs, for the preparation of a text explaining the implications of the entry into force of the UNCLOS on the application of LC 1972.

4.27 Finally, the Consultative Meeting adopted the revised list of action items related to the future strategy for the Convention shown at annex 2.

5 AMENDMENTS TO THE CONVENTION AND ITS ANNEXES

5.1 The delegation of Denmark presented its proposal (LDC 15/5/1) which was co-sponsored by Iceland and Norway for a draft resolution to convene an Amendment Conference of the London Convention 1972 in 1993. In an Appendix to this draft resolution Denmark proposed several amendments on the text of the Convention and its Annexes which, if adopted in principle in 1992, would in their view constitute the most effective way to mark the twentieth anniversary of the signing of the London Convention 1972.

5.2 The Danish document builds on and replaces the draft resolution submitted by twelve Contracting Parties to the Fourteenth Consultative Meeting (LDC 14/16, annex 9) and contains proposals to include in the Convention and/or its Annexes, *inter alia*, the agreements by the Consultative Meeting with regard to incineration of noxious liquid substances at sea (resolution LDC.35(11)); phasing out sea disposal of industrial waste (resolution LDC.43(13)); application of a precautionary approach in environmental protection within the framework of the Convention (resolution LDC.44(14)); and

a proposal to prohibit the disposal at sea of low and intermediate level radioactive waste.

5.3 The delegation of the United States presented a discussion paper on several aspects pertaining to amendment of the Convention (LDC 15/5/2). The United States believes that, while underscoring the objective of the amendment proposals made by Denmark, the basic structure of the Convention should remain unchanged. That delegation objected to amendments that would abandon or dilute the principle of objective, scientific decision-making or that would be inconsistent with the Convention's precautionary approach. That delegation further invited the Meeting to explore ways to include activities at sea that, while not dumping, are of significant concern and have had a negative impact on the quality of the marine environment. This would pre-suppose consensus that the Convention would be the appropriate international instrument to address the issue in question.

5.4 The United Kingdom urged that future decisions by the Convention be based as far as possible on improved scientific understanding and assessment, taking account of the implications for all parts of the global environment.

5.5 The Secretariat introduced a document on procedural and organizational considerations for the amendment process (LDC 15/5/3). In this document information on relevant resolutions and decisions by the Consultative Meeting, and organizational and budgetary constraints is provided for the preparation, review and adoption of amendments. The document summarizes elements to be included and options for an Amendment Programme, with one option proposing that such a programme would take at least two years: one year for full negotiations on amendments followed by another year for the formal adoption of these amendments in accordance with the relevant Articles and resolutions.

5.6 The Secretariat presented a review of proposed and adopted amendments to the Convention (LDC 15/INF.14) summarizing the discussions and decisions by the Consultative Meetings from 1977 onwards on amending the Articles and Annexes of the Convention.

5.7 The Secretariat of the Oslo and Paris Commissions, together with the delegation of France, presented document LDC 15/INF.11 on the outcome of the Ministerial Meeting of the Oslo and Paris Commissions, which was held from 21-22 September 1992 in Paris. At that Meeting, a "Convention for the Protection of the Marine Environment of the North-East Atlantic" which is to replace the Conventions of Paris (1974) and Oslo (1972) was signed by the Contracting Parties to those Conventions and by Luxembourg and Switzerland. This Convention covers all sources of marine pollution other than that caused by normal operation of ships.

5.8 In Annex II to that Convention governing the prevention and elimination of pollution by dumping or incineration, the black and grey list approach is replaced by a reverse list, whereby dumping of all wastes or other matter is prohibited, with the exception of a limited list of waste streams. This Annex also contains a provision whereby the dumping at sea of low and intermediate level radioactive substances is prohibited. However, this provision contains an exception for two Contracting Parties to the Convention which limits this prohibition until 1 January 2008 under certain conditions.

5.9 In discussion the Meeting expressed its general support for the underlying objective of the amendment proposals put forward by Denmark and expressed the wish not to lose the momentum created at the Earth Summit in Rio de Janeiro in June 1992.

5.10 There were, however, different views on the time needed for an amendment programme. Several delegations expressed their concern for any delay and were in favour of an Amendment Conference in 1993. In their view the essence of the resolutions and decisions adopted by the Consultative Meeting in recent years as reflected in the Danish proposals did not need further extensive consideration prior to formal adoption as amendments.

5.11 The delegation of the Netherlands, while expressing sympathy for the Danish proposal, stressed the need for a detailed time-schedule, which would allow for sound development and preparation of the amendment process. This view was shared by other delegations who also stressed the need to assure clarity and balance of texts and the need to strive for consensus, not least to assist Contracting Parties to avoid a slow ratification process of an amended Convention. These delegations held the view that the very resolutions that the meeting seeks to incorporate into the Convention are being implemented by Contracting Parties in practice. This would allow for scheduling an Amendment Conference in 1994 instead of 1993 and without additional risk to the marine environment.

5.12 Greenpeace International drew the attention of the Meeting to the fact that according to resolution LDC.28(10) "the suspension of all dumping at sea of radioactive wastes will continue pending the completion of ... studies and assessments", and that the dumping of such wastes might be resumed after completion of a final report by IGPRAD in July 1993 and before a decision on the moratorium by the Sixteenth Consultative Meeting. The Meeting explored whether this matter would constitute a problem and agreed that such a problem should be avoided.

5.13 The Meeting decided to establish a working group chaired by Mr. A. Sielen (United States) to develop an Amendment Programme and to consider the moratorium issue.

5.14 The discussions of the Working Group centered primarily on two areas identified by the Plenary, namely the identification of a list of core issues for proposed amendments; and a procedure for consideration of these amendments.

5.15 With respect to the list of issues, the Group used the paper prepared by Denmark (LDC 15/5/1), listing eight areas for possible amendment. These were, for the most part, accepted by the Group without significant revision. The Group also decided to consider the suggestions of its members for new and additional issues for prospective amendments. There was no shortage of suggestions, and the Group soon decided that it would most profitably divide the suggested new issues into two groups:

- .1 a core group that would be included with the original Danish recommendations and which would be the subject of further examination during the intersessional period leading up to an Amendment Conference; and

- .2 a second group of issues that would not be acted on before the Amendment Conference.

The issues included in the core group are identified in the procedure for the priority consideration of amendments as contained in annex 3 of this report. The second group of issues is identified in an appendix to annex 3.

5.16 The question of which issues should be included in the first, or "core" group, and which in the second group proved to be quite controversial. Most Working Group members preferred to see the core list limited to only those issues that could be acted on in a somewhat expeditious manner. The Group therefore agreed to apply two criteria in determining to which group an issue should be assigned; first, that it had already been the subject of significant discussion by Contracting Parties, and second, that it had substantial support for inclusion in the core list. Using this measure the group ultimately decided on adding five new items to Denmark's original list. The Group felt that some of the issues not included in the core list were indeed very important, if not ready for action now, and that the long-term strategy group should examine them in the course of its work programme.

5.17 Some countries expressed concern that under the agreed procedure new issues could not be added to the "core list" after the Fifteenth Consultative Meeting. The Working Group generally agreed that it would be preferable to address in the intersessional period a specific set of issues that had already been the subject of substantial debate, and that stood a good chance of consensus. It was considered that keeping the core list open during the intersessional period would take away valuable time from negotiations on the agreed core issues, and possibly impede progress toward the adoption of amendments. At the same time, the Group agreed that in exceptional cases, a party may wish, after the Fifteenth Consultative Meeting, to recommend the addition of an issue to the core list; but that parties should exercise a certain amount of discipline, and restraint, in adhering to the original list in the interest of making rapid progress toward adoption of amendments.

5.18 Regarding procedural considerations: some Working Group members felt that Contracting Parties should still attempt to hold an Amendment Conference in 1993, and adopt Denmark's resolution at the Fifteenth Consultative Meeting. After considerable discussion, however, of the various steps required to prepare for such a conference it was decided that it would be acceptable to establish a 1994 deadline for the formal adoption of amendments with a view to completing all preparatory work as soon as possible. There was considerable discussion of the possible role of the subsidiary bodies, e.g. the Scientific Group, IGPRAD and the ad hoc Group of Legal Experts in preparing for an Amendment Conference, as well as the need for one or more special negotiating sessions. The Group also considered the financial implications, for IMO and Contracting Parties, of necessary preparatory work, and concluded that it would be desirable for the IMO Secretariat to allow a certain amount of flexibility in scheduling and budgeting for meetings. In this regard the Group was especially concerned that sufficient translation and interpretation services be available for a two-week meeting to comprise a final meeting of IGPRAD (12-16 July 1993) and an amendments negotiating session (19-23 July 1993). Should IMO be unable to fund required meetings it was considered that Contracting Parties may wish to provide voluntary contributions to pay for needed meetings.

5.19 In the light of some plenary discussion on the appropriate legal mechanism for adopting significant changes to the Convention, the Group briefly discussed the relative merits of an approach based on a series of Protocols incorporating changes to the Convention, as compared to the more conventional approach of simply adopting amendments to the Convention itself, or to its Annexes. Largely for reasons of timeliness, it was decided that parties should abide by Denmark's original approach to amendments. The Group also examined the question of whether amendments should be presented for adoption at the Seventeenth Consultative Meeting in 1994 or at a separate diplomatic conference. It was concluded that such a separate conference would be costly, and largely unnecessary. The Group did feel, however, that if an Amendment Conference was held in conjunction with the Consultative Meeting additional time would be required to consider amendments to the Convention. The Group recommended, therefore, that an additional 2-3 days be added onto the week normally allocated for a Consultative Meeting.

5.20 As instructed by the Plenary, the Working Group also discussed the question of the continuance of the moratorium on the dumping at sea of low-level radioactive wastes that has been in place since 1983. Two basic approaches were considered. One approach would extend the moratorium until such time as the Consultative Meeting made a decision otherwise. A second approach would extend the moratorium pending a decision at the Amendment Conference in 1994. In this regard, key issues were provisional application before entry into force of amendments adopted in 1994, and the question of the status of the moratorium should Contracting Parties fail to reach agreement in 1994. After extensive debate, it was agreed by the Working Group to recommend to the Plenary that in the final analysis there is no need for Parties to act on the moratorium question at this Consultative Meeting, but also to remind Parties that IGPRAD will present its final report to the Sixteenth Consultative Meeting in 1993 at which time its work will be complete. Therefore, the moratorium will remain in force until the Sixteenth Consultative Meeting.

5.21 Since the Spanish translation of the report of the Working Group (LDC 15/WP.7) was not available at the time the Meeting discussed that report, the delegation of Spain expressed its concern about two related points of procedure. One issue related to the fact that if highly important subjects such as amendments to the Convention are discussed and prepared by a working group, the English-speaking delegations are at a clear advantage. Proposals by such a group may reflect to a significant extent the opinion of those Contracting Parties. The other issue was that if a report by a working group is submitted late to the Plenary and cannot be translated in time, the report as such cannot be considered carefully by the Meeting as a whole and, as in this case, the Spanish-speaking delegations were again at a clear disadvantage.

5.22 Therefore, the Spanish delegation would reserve its position with regard to the proposals submitted in the report of the Working Group. However, in the spirit of collaboration, and in order not to impede the progress of the Meeting, that delegation could approve the report of the Working Group in principle. This view was shared by all Spanish-speaking Contracting Parties present at the Meeting.

5.23 The delegation of the Netherlands indicated that it could support the report of the Working Group and noted, provided delegations would exercise

discipline in order not to disturb the amendment process, that issues to be included in the amendment process did not have to be limited to the issues on the core list.

5.24 The Meeting agreed to adopt the Procedure for the Priority Consideration of Amendments to the Convention, as contained in annex 3 of this report.

5.25 The Meeting also endorsed the conclusion of the Working Group, that there is no need to act on the moratorium issue at the present Meeting and that the moratorium on dumping at sea of radioactive wastes will remain in force until the Sixteenth Consultative Meeting.

5.26 The delegation of the Solomon Islands expressed, with support from many delegations, concern and regret at the failure to adopt the Canadian proposal that: "the Meeting would accept an extension of the moratorium until it decides otherwise". Such a failure would create an unacceptable lacuna in the protection of the marine environment after the Sixteenth Consultative Meeting, which must be avoided. Solomon Islands finds unacceptable a situation under which dumping prohibited in some areas under regional conventions, might take place in other areas not so protected.

5.27 The delegations of Kiribati and Nauru expressed their support for the Danish proposals to ban radioactive waste dumping at sea, but also could accept the agreed Amendment Procedure with the 1994 deadline. In view of the agreed Amendment Procedure, the delegations of Kiribati and Nauru agreed to table their proposed amendment of the Annexes to prohibit radioactive waste dumping at sea (LDC 7/7), thereby postponing action on their proposal to an appropriate future Consultative Meeting.

6 CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUP

Introduction

6.1 The Chairman of the Scientific Group, Mr. R. Engler (United States), provided a comprehensive review of the activities carried out by the Scientific Group since the Fourteenth Consultative Meeting, highlighting the major discussions and recommendations of that Group (LDC/SG 15/17 and summarized in LDC 15/6).

6.2 The Meeting took note of a document submitted by the International Association of Ports and Harbors (IAPH) reflecting its views on two issues under discussion in relation to the treatment of dredged materials disposal under the Convention (LDC 15/INF.9):

- .1 The IAPH noted that the Scientific Group recommended adoption of the Waste Assessment Framework (WAF) on a provisional basis pending further action by Contracting Parties upon certain policy issues identified by the Scientific Group. The IAPH supported this recommendation and believed that the WAF presented a workable and understandable waste assessment procedure that improved previous guidance under the Convention.

- .2 IAPH stressed that an introduction of the reverse listing approach to replace the Prohibition List in the Waste Assessment Framework was not warranted and would be regulation by assumption rather than by scientific assessment and determination. In their opinion, the reversed listing concept was also not required by the precautionary approach as adopted in resolution LDC.44(14), because in no sense did the precautionary approach contemplate or require a per se prohibition against all dumping based on unsupported assumptions that harm will occur; and
- .3 IAPH expressed its commitment to assist with the review of the "Guidelines for the Application of the Annexes to the Disposal of Dredged Material" and believed that many provisions of the WAF, provided they are applicable to the sediment matrix, can be used effectively with the guidelines in assessing the suitability of dredged materials for disposal at sea.

6.3 The subsequent discussion of the Meeting on issues raised by the Scientific Group is reflected in the following paragraphs, together with action thereon by the Meeting.

Waste Assessment Framework

6.4 The Chairman of the Scientific Group reviewed the past activities of the ad hoc Group of Experts on the Annexes and subsequent Scientific Group actions in its four previous meetings. He noted that these Groups had reviewed the technical structure of the Annexes to the London Convention 1972, discussed proposals to restructure the Annexes as appropriate, and recommended an assessment procedure to implement the Annexes and technical portions of the Convention. An implementation procedure for the Annexes to LC 1972 known as the New Assessment Procedure and renamed the Waste Assessment Framework (WAF) was recommended by the Group for implementation. The WAF has also undergone trial use during the intersessional period after the Thirteenth Consultative Meeting of the London Convention 1972 with results of this trial use being incorporated into final revisions at the last meetings of the ad hoc Group of Legal Experts (10-14 February 1992) and at the fifteenth meeting of the Scientific Group. It is important to note that the final revisions of the WAF included the precautionary approach adopted at the Fourteenth Consultative Meeting of the London Convention 1972.

6.5 The Chairman of the Scientific Group noted that it was felt by some that the reverse listing approach, inclusion of a prior notification procedure, and additional scientific input to the action list would strengthen the WAF. The Chairman of the Scientific Group then concluded that the WAF was agreed by the Group to be scientifically suitable for implementation by Contracting Parties and recommended adoption by the Fifteenth Consultative Meeting on a provisional basis pending resolution of the aforementioned issues and the outcome of amendment activities. It was also noted by the Chairman of the Scientific Group that the WAF was a "living" document that would be refined and improved at future meetings of the Scientific Group through experience gained in its use by Contracting Parties and through actions taken by future Consultative Meetings.

Policy issues related to the Waste Assessment Framework

6.6 Notification procedures The Meeting agreed that a notification procedure was necessary for industrial wastes disposed at sea or proposed for sea disposal and should be a part of the WAF. A working group was established to draft an approach to include some type of notification procedure in the WAF and report to the Meeting. In discussing the report of the Working Group it was recognized that the proposal of the Group to the Meeting consisted more of an immediate reporting procedure than a prior consultation procedure as mentioned in the Scientific Group Report. After discussion the Meeting adopted the following "Prior Reporting Procedure".

6.7 The Prior Report Procedure (PRP) would be applied to implementation of the WAF to existing and new permits for wastes subject to cessation in accordance with resolution LDC.43(13). The PRP would operate as follows:

- .1 a Contracting Party issuing a permit for sea disposal of industrial wastes will immediately inform the LC 1972 Secretariat by means of a short report giving details of:
 - the issuing authority and a contact point from whom full information can be obtained;
 - permit start date/permit expiry date;
 - specification of the waste material, including description of the process giving rise to the waste and the alternatives to sea disposal which have been considered, including clean production options, recycling, other uses or disposal routes for the waste;
 - quantity of waste to be disposed of at sea;
- .2 the LC 1972 Secretariat will collate PRP submissions and distribute these as a document for the meeting of the Scientific Group;
- .3 individual Contracting Parties may submit comments and suggestions to the Contracting Parties (which have issued permits) within eight weeks of the end of that meeting of the Scientific Group; and
- .4 full details of the permit should be submitted within the agreed reporting schedule (as set out in LDC 12/16, annex 2).

6.8 An important follow-up to the PRP process will be feed-back from Contracting Parties issuing permits for disposal at sea on their success in implementing the technical assistance offered.

6.9 A number of delegations were of the opinion that some kind of consultation procedure would be desirable although they realized that such a procedure, because of the global scale of this Convention, could not simply be copied from a regional Convention. The Meeting invited delegations who were in favour of such a prior consultation procedure to forward proposals to the Scientific Group for preparation of a discussion in the Consultative Meeting.

6.10 Reverse listing Several delegations felt that the reverse listing approach in place of a prohibition list should be given consideration via future refinements of the WAF. It was noted that the WAF follows the current construction of the Convention and as such reverse listing should be included in discussions regarding amendments to the Convention (see agenda item 5). The Meeting subsequently agreed to request the Scientific Group to undertake the necessary scientific and technical assessment of a reverse listing approach in relation to the interpretation of Annexes I and II and taking into account relevant resolutions on radioactive wastes, industrial wastes, incineration at sea and the precautionary approach.

Adoption of the Draft Waste Assessment Framework

6.11 The Meeting was asked to note that the Waste Assessment Framework was scientifically and technically suitable for implementation and to adopt the WAF on a provisional basis, pending the resolution of the issues shown at paragraph 6.5. Significant discussion followed this request. Several Parties supported provisional adoption while others thought adoption was premature and should await future actions taken by the Consultative Meeting on the policy issues, pending resolutions, and proposed amendments to the Convention.

6.12 The delegation of Nauru agreed that the WAF was technically and scientifically suitable but felt that that adoption would be premature pending resolution of outstanding issues, namely reverse listing, discussion as to whether the "action level" concept is permissive rather than precautionary, and legally binding decisions about what waste forms the WAF would cover. Denmark, FOEI and Greenpeace International supported Nauru and felt that the WAF could only be used for dredged material and that emphasis should be placed on elimination of upstream sources contaminating dredged material. Others, including Iceland, Kiribati, the Solomon Islands, Spain, Sweden and Vanuatu, felt that adoption would be premature until future amendment actions were resolved.

6.13 The delegation of Canada fully supported the scientific and technical validity of the WAF and stated that provisional adoption at this time would not prejudice any future decision by the Consultative Meeting. That delegation noted that Canada had used the draft WAF to revise its own legislation and fully supported adoption of the WAF and that its adoption serves as no barrier to any future discussion and actions in regard to future refinement and improvement. Others, including Australia, Belgium, China, France, Japan, the Netherlands, the United Kingdom and the United States fully supported the views of Canada and further noted that adoption of the WAF would not harm the Convention amendment procedure.

6.14 The Meeting agreed with the scientific and technical validity of the Waste Assessment Framework and agreed to adopt the WAF on a provisional basis in conjunction with the existing regulations, recommendations and resolutions of LC 1972, and pending resolution of policy issues such as the reverse listing approach. The Meeting also agreed to direct the Scientific Group to establish appropriate approaches and mechanisms for the application of action levels for substances deemed by the Consultative Meeting to be appropriate for disposal at sea.

Global Waste Survey, incineration at sea and disposal of industrial wastes

6.15 The discussions on these items were moved to a combined agenda item 7 and 8 and are found at paragraphs 7.1 to 7.25.

Artificial reefs and islands

6.16 It was recalled that the Fourteenth Consultative Meeting had directed the Scientific Group to review the appropriateness of the range of materials including wastes and substances listed in Annexes I and II to the Convention that were being or might be used for reef and island construction. The Meeting agreed that Annex I and II substances should not be used for construction unless requirements and guidance of the Convention were complied with. The Meeting also agreed with the conclusions of the Scientific Group that existing Convention guidance implementing Annexes I, II and III were sufficient to make the appropriate evaluation. The Meeting further agreed that the consideration of the use of industrial wastes for artificial reef and island construction should be a matter for consideration by the Scientific Group. In addition, the Meeting agreed that it was not necessary for this subject to undergo further review by the ad hoc Group of Legal Experts.

Review of Dredged Material Guidelines

6.17 The Chairman of the Scientific Group reminded the meeting that the Guidelines for the Application of the Annexes to the Disposal of Dredged Materials adopted at the Tenth Consultative Meeting (resolution LDC.23(10)) were scheduled for a five-year review and that the review was initiated in a general fashion at the fifteenth meeting of the Scientific Group with a full review proposal for its sixteenth meeting and completion in 1994.

6.18 The delegation of Chile noted that, in reviewing the Dredged Material Guidelines and subject to the demands which the Guidelines might place on developing countries, the review should take account of the possibilities, capacities and resources at the disposal of developing countries in order to accept compliance.

6.19 The Meeting agreed that the full review should take place and include the following tasks:

- .1 review the Guidelines in light of experience gained by Contracting Parties with the Guidelines, in particular with regard to the application of the terms "trace contaminants", "rapidly rendered harmless" and "special care";
- .2 consider information contained in the Oslo Commission Guidelines for the Management of Dredged Material (LDC/SG 15/6/1), as well as the Helsinki Commission Guidelines for the Disposal of Dredged Spoils (LDC/SG 15/6/2);
- .3 consider the incorporation of the Waste Assessment Framework into the Guidelines;

- .4 consider the incorporation into the Guidelines of additional guidance such as:
 - .4.1 assessment of the characteristics and composition of dredged material;
 - .4.2 sampling and analysis of dredged material;
 - .4.3 characteristics of dumpsites and methods of deposit;
 - .4.4 dredging and disposal techniques, including agitation and side cast dredging;
 - .4.5 monitoring of dredging and disposal operations;
 - .4.6 beneficial uses of dredged material;
 - .4.7 analytical requirements; and
 - .4.8 normalization techniques;
- .5 to request Contracting Parties to submit information on the above, as well as on the following issues:
 - .5.1 trace contaminants;
 - .5.2 rapidly rendered harmless;
 - .5.3 special care techniques;
 - .5.4 option of least detriment; and
 - .5.5 agitation and side cast dredging.
- .6 to consider any specific requirements that might be proposed for inclusion in discussions related to the amendment of the Convention;
- .7 request that the IAPH and PIANC give support to developing countries in implementing the Dredged Material Guidelines; and
- .8 the Meeting agreed that the Scientific Group in carrying out the work on the revision of the Dredged Material Guidelines should bear in mind that developed and developing countries should be able to comply with the revised Guidelines.

Sewage management

6.20 The Meeting noted that a global sewage survey was requested by the Fourteenth Consultative Meeting of the London Convention 1972 to include UNCED recommendations where available, and advice of the Scientific Group as to conducting the survey. Actions taken by the LC 1972 Secretariat included contacts with other UN Agencies taking note that funding for this activity was not available. The World Health Organization (WHO) expressed interest in

taking a lead in this project. The UNCED AGENDA 21 listed numerous items concerning sewage management to include:

- .1 coastal development plans;
- .2 sewage treatment construction;
- .3 management of coastal outfalls;
- .4 treatment controls;
- .5 primary treatment; and
- .6 monitoring programmes.

The deadlines recommended by UNCED were also discussed. The Meeting agreed that the Secretariat should be encouraged to continue collaboration with other UN agencies, and with WHO in particular, on the preparation of a study on global management of municipal sewage.

Sea disposal of offshore installations and structures

6.21 The Chairman of the Scientific Group reminded the Meeting that the Scientific Group had previously reviewed the need for specific guidelines for the sea disposal of offshore installations and structures. It was concluded at that earlier meeting that the existing Annex III Guidelines were sufficient to protect the marine environment. The ad hoc Group of Legal Experts had also reviewed various aspects of disposal structures and as a result of their review another technical review was required of the Scientific Group. It was also noted that specific guidelines have been issued by the Oslo Commission and were discussed by the Scientific Group. The Meeting noted that the Scientific Group reaffirmed its previous advice to the Consultative Meeting that no specific guidance other than the Annex III Guidelines was needed for the sea disposal of offshore installations and structures, and that since no submission had been made to the meeting there was no need to come back to this issue unless significant concerns were to arise with the application of the Annex III Guidelines.

Sea disposal of carbon dioxide

6.22 The Meeting was advised that it was being proposed that CO₂ recovered from stack gases of fossil-fueled combustion plants be disposed in the deep ocean so to reduce atmospheric build-up of CO₂. The Scientific Group suggested that there are numerous uncertainties and limitations of scientific understanding of this process but that the sea disposal option is one of several being considered and is only in the conceptual stage. As such, additional information was requested by the Scientific Group. The Meeting noted the interest expressed by the Scientific Group in receiving further information from Contracting Parties and organizations on plans and investigations concerning sea disposal of carbon dioxide and encouraged interested Contracting Parties to submit any relevant material.

Waste management issues

6.23 The Chairman of the Scientific Group informed the Meeting that there were no submissions to the Scientific Group and consequently no discussion

was held. The Meeting noted the recommendations of the Scientific Group that "waste management issues" be kept as an item on its agenda and that Contracting Parties be encouraged to make submissions.

Monitoring and disposal activities at sea

6.24 The Chairman of the Scientific Group noted a serious scarcity in reporting of disposal activities by Contracting Parties to LC 1972 and that more than half of the Contracting Parties have not supplied any information. The importance of Contracting Parties submitting "nil" reports on the dumping of wastes at sea was emphasized by the Meeting. It was pointed out that such reports provided a means of identifying the current status and measuring the progress being made by Contracting Parties in moving toward land-based waste management alternatives. In an evaluation of permits issued (LDC 15/WP.2) no clear trends were evident but that the last full report dealt with permits issued in 1984 (LDC.2/Circ.275). The delegation from New Zealand expressed concern that the reports were not up-to-date. The Chairman noted that all remaining reports will be available for the sixteenth meeting of the Scientific Group.

Guidelines, manuals and bibliographies

6.25 The Meeting was advised that the Secretariat has an on-going effort compiling bibliographies on numerous aspects of ocean disposal. The dredging bibliography is in the preliminary stage and has had an initial review by the Scientific Group. It was recognized that providing bibliographic services was labour intensive and time consuming. Consequently, ways were explored to take advantage of similar services by technical organizations and associations such as the Central Dredging Association (CEDA), International Association of Ports and Harbors (IAPH), International Association of Dredging Corporations (IADC) and the Permanent International Association of Navigational Congresses (PIANC). It was noted that these bodies had considerable experience in this area, including computerized bibliographic data bases. The Scientific Group requested the Secretariat to explore the possibilities of using the services of such bodies.

6.26 With regard to dredged material disposal, the IAPH had previously conducted a survey of its member ports and presented an accounting of dredging in 82 ports over the world. The IAPH has recently completed a second survey jointly with IMO, building on experience from the previous survey.

6.27 The Meeting noted the progress made by CEDA, IAPH, IADC and PIANC with regard to the preparation of the bibliography on effects of dredging and disposal of dredged material in the marine environment and the progress of the IAPH/IMO Survey on the disposal of dredged material.

Co-operation and information exchange

6.28 The Chairman of the Scientific Group stated that a number of reports were received from several groups to the Scientific Group, including:

- .1 an ACOPS report describing a Conference on Land Based Sources of Marine Pollutants;

- .2 the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) informed the Group of several of their efforts on marine pollution;
- .3 the IOC Group of Experts on Effects of Pollutants (GEEP) and the Group of Experts on Methods, Standards and Intercalibrations (GEMSI) described several completed workshops on various aspects of marine pollution;
- .4 UNEP discussed their report on a list of selected environmentally harmful chemical substances, processes and phenomena of global significance; and
- .5 an announcement by the Secretariat that video training packages on preventing ocean pollution were being planned.

6.29 The Meeting noted that arrangements are being made by China to convene the Second International Ocean Pollution Symposium (2IOPS) at the Qinghua University, Beijing, from 4 to 8 October 1993.

6.30 The delegation from China advised the Meeting that the second announcement of that Symposium was to be distributed in the near future and requested that the Meeting suggest any addition or panels for the Symposium and that delegations financially support scientific participation from their countries.

Future Work Programme

6.31 The Scientific Group had developed a three-year programme identifying priority dates for reporting to the Consultative Meeting (LDC/SG 15/17, annex 4). This programme was briefly reviewed by the Consultative Meeting under agenda item 13. The Meeting agreed that the list of substantive items proposed for inclusion in the sixteenth, seventeenth and eighteenth meetings of the Scientific Group would be determined by the Chairman, the Vice-Chairmen, the Chairman of the Scientific Group and the Secretariat, the result of which appears at annex 7.

- 7 MATTERS RELATED TO THE INCINERATION OF WASTES AT SEA
AND
- 8 SEA DISPOSAL OF INDUSTRIAL WASTES

7.1 The Meeting agreed that matters related to the incineration of wastes at sea and the sea disposal of industrial wastes (agenda item 8) be combined, and that action items carried over from the Scientific Group and the Global Waste Survey be the focus of the discussions.

Global Waste Survey

7.2 The Meeting recalled that the Thirteenth Consultative Meeting adopted resolutions LDC.39(13) and LDC.43(13) concerning the re-evaluation of at-sea incineration of noxious liquid wastes as early in 1992 as possible, with a view to proceeding towards termination of this practice by 31 December 1994 and cessation of the dumping of industrial wastes by 31 December 1995,

respectively. It was also recalled that the document "Work Programme On Matters Related to Incineration At Sea" (LDC 13/15, annex 3), concerning the issues to be addressed in the aforementioned re-evaluation was used as the basis for the Global Waste Survey.

7.3 The Meeting noted footnote 2 of resolution LDC.43(13) which specified that the evaluation for industrial waste dumping be conducted in conjunction with the incineration at-sea evaluation, and that the terms of reference of the "Work Programme On Matters Related To Incineration At Sea" be broadened to include industrial wastes, as defined in resolution LDC.43(13).

7.4 The Meeting acknowledged that the Global Waste Survey had been designed and was being implemented in accordance with the prescribed Work Programme, and on the basis of five principal tasks, including:

Task 1: Development of a Global Waste Survey

Task 2: Review of Existing Waste Management Practices

Task 3: Identification of Technologies and Processes for Cleaner Production, Waste Minimization and Waste Avoidance

Task 4: Implementation of Case Studies

Task 5: Development of Strategy and Action Plan

7.5 The Meeting acknowledged, with gratitude, the international agencies that collaborated with the Secretariat during the development and implementation of Task 1, including: UNEP; UNDP; ECE; ESCAP; FAO; WHO; UNIDO; the World Bank; OECD; and CEC.

7.6 The Secretariat presented a status report on the project to the Meeting (LDC 15/7). It was noted that Task 1 is 90% complete and that 80 of the 153 countries and territories that were sent the overview questionnaire on industrial and hazardous waste management have responded. The information from the 80 respondents has been input into a specially designed computerized inventory and information system, which is currently under review by several international and national agencies. The report will be available for distribution early in 1993.

7.7 The Chairman requested Contracting Parties which have not yet completed the survey questionnaire to please do so as soon as possible in order to be included in the first publication of the global waste inventory.

7.8 Observations and conclusions were presented concerning incineration at-sea, ocean dumping of industrial wastes and the waste management policies and practices of the 80 respondents to the survey, as identified in the Task 1 activity (LDC 15/7).

7.9 The Meeting noted the status of the Global Waste Survey, and the principal conclusions and recommendations of the Global Waste Survey Workshop (LDC.2/Circ.298). In addition, the Meeting recognized the progress that had been made toward achieving the recommendations of the Workshop, including: the

Terms of Reference for the UNEP/IMO Steering Committee on the Development and Implementation of the Global Waste Survey (LDC 15/WP.1); the commitment by UNEP to continue operating the Global Waste Management Information System upon completion of the project; and the co-operation of regional organizations (i.e., ESCAP; SPREP; REC; CPPS; and PAHO), national agencies and the International Environment Bureau as a co-ordinating agency for industry's input to the project.

7.10 The Meeting accepted the proposed schedule and work plan for Tasks 2 and 3 of the Global Waste Survey as presented by the consulting firm, Environmental Resources Limited, and recognized that outputs from this effort will be completed in time for the next Scientific Group meeting. It was noted that submissions to the Scientific Group will include knowledge of the waste management capabilities and capacities of 15 to 20 selected countries in various regions of the world. The range of information to be provided includes:

- .1 from developed countries, an illustration of the evolution from sea to land-based waste management practices, within the context of the overall development of comprehensive industrial and hazardous waste management systems over the past 20 to 25 years, including the application of cleaner production processes and pollution prevention initiatives;
- .2 from newly industrialized countries, which will not have the opportunity to use ocean dumping as an interim solution to industrial waste disposal, an appraisal of the current situation and current national capabilities and capacities to manage industrial wastes, the sequence of actions which have taken place in the development of waste management systems, the priorities for action and future development plans; and
- .3 from developing countries, an analysis of the existing state of waste generation and waste management, priority environmental and health problems, plans for economic development, past and planned actions to manage waste and the type of assistance available (and required) to further develop national waste management policies and practices.

7.11 The Meeting was informed that the Contracting Parties selected for participation in the Task 2 phase of the project included: Brazil; Canada; Chile; China; Egypt; Germany; Hungary; Ireland; Jamaica; Japan; Mexico; the Netherlands; Nigeria; Philippines; Poland and the South Pacific Region. The Chairman encouraged the identified Contracting Parties, and others, to co-operate with the Secretariat in completing Task 2.

7.12 The Meeting acknowledged the importance of Tasks 4 and 5 of the Global Waste Survey to the technical co-operation and capacity building initiatives of Article IX of the London Convention 1972, as well as the aims and actions identified in the following chapters of AGENDA 21:

- Chapter 17 Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources

Chapter 20 Environmentally sound management of hazardous wastes, including prevention of illegal international traffic in hazardous wastes

Chapter 31 Scientific and technological community

Chapter 34 Transfer of environmentally sound technology, co-operation and capacity building.

7.13 The Chairman noted in the revised work schedule that Task 5 of the project extended beyond the date of the Sixteenth Consultative Meeting of Contracting Parties (i.e., November 1993), the previously scheduled termination date for the project, and advised the Meeting that the existing "technical support" agreement between Canada and IMO concluded in September 1993.

7.14 The delegation from Canada advised the Meeting that Canada could agree to pursue an extension of the agreement provided a show of support for the Global Waste Survey was forthcoming.

7.15 After several positive interventions, the Chairman concluded that there was strong general support for the project and recommended that the existing agreement between Canada and IMO be extended in concert with the Task 5 activity.

7.16 The Netherlands delegation urged the Secretariat to explore opportunities for collaboration with the World Bank and, in particular the Global Environment Facility, as well as other similar institutions during the Global Waste Survey. That delegation emphasized the importance of consulting with such institutions at the development stage of technical co-operation and capacity building programmes.

Incineration at sea

7.17 The Meeting noted that no new information had been made available to the Scientific Group on the scientific and technical aspects of incineration of noxious liquid waste at sea and that, therefore, there was no basis for re-evaluation of this waste disposal practice. The Meeting encouraged Contracting Parties that have experience in replacement of sea incineration by land-based options, to provide the relevant information to the Global Waste Survey.

7.18 The delegation from New Zealand noted that, with the information from the Global Waste Survey, and the cessation of operation of the last remaining incineration ship in 1991, incineration of noxious liquid wastes at sea was no longer an issue. In addition, that delegation recalled the recommendation from UNCED encouraging Contracting Parties to take appropriate steps to stop incineration of hazardous substances at sea. The New Zealand delegation proposed that, as a positive response to the UNCED recommendation, the ban on incineration at sea of wastes be moved from the proposed implementation date of 31 December 1994 to 31 December 1992.

7.19 The delegation from Denmark supported the proposal from New Zealand.

7.20 The Consultative Meeting established a working group under the chairmanship of Mr. K.F. Jørgensen (Denmark). Delegations from Canada, Finland, the Netherlands, New Zealand, Sweden, and the United States participated in the working group. The Group was instructed to draft a resolution on the termination of incineration of noxious liquid wastes at sea.

7.21 In reporting the outcome of the deliberations of the Working Group (LDC 15/WP.3/Rev.2), the Chairman of the Working Group noted that the approach adopted by the Group was to change the date by which incineration at sea of noxious liquid wastes would be prohibited from 31 December 1994 to 31 December 1992. The Chairman further noted that the draft resolution called upon Contracting Parties to consider favourably requests for technical or scientific assistance, including transfer of relevant publically available information, based on the outcome of the Global Waste Survey.

7.22 The French delegation noted that the draft resolution did not cover the incineration at sea of noxious solid wastes and expressed the view that the resolution might be extended to cover these wastes. Several delegations supported this view while others believed it best to first concentrate on noxious liquid substances.

7.23 The Meeting adopted the draft resolution on the termination of incineration of noxious liquid wastes at sea and agreed to consider in future the incineration of noxious solid wastes at sea.

7.24 The resolution as adopted (LC.47(15)) is shown at annex 5.

Industrial waste

7.25 The Meeting recalled that the Scientific Group was asked to clarify the categorization of wastes for reporting purposes under Article VI of the Convention. The Meeting agreed with the detailed consideration of the Scientific Group on this matter and adopted the following amended waste categories under which Contracting Parties would report on permits issued for disposal of wastes at sea:

- | | | |
|----|---|--|
| .1 | municipal sewage/sewage sludge; | |
| .2 | dredged material; | |
| .3 | liquid chemical waste | The distinction between these categories (.3 and .4) would be made on the relative solids content. An intermediate category designated as "slurry" could be appropriate; |
| .4 | solid chemical waste | |
| .5 | geological material modified by physical processes; | |
| .6 | bulky metallic waste, e.g. scrap metal, pre-formed metallic material more than 1 metre in its largest dimension, not including ships and offshore installations and structures; | |

- .7 bulky non-metallic wastes, e.g. construction materials and rubble, and ceramic;
- .8 natural biological waste, e.g. agricultural wastes/fishery wastes;
- .9 vessels, e.g. ships and boats;
- .10 offshore installations and structures; and
- .11 other.

9 INFORMATION EXCHANGE ON WASTE PREVENTION AND CLEAN PRODUCTION METHODS, WASTE PRODUCTION AND DISPOSAL

Sea disposal of wastes from titanium-dioxide production:
status of current activities in Spain

9.1 The Meeting was informed by the delegation of Spain (LDC 15/9) that disposal at sea of wastes from titanium-dioxide production in Spain is currently carried out at sites in the Atlantic Ocean (i.e., 352,976 m³ in 1991). It was further noted that authorization to dump this material is valid until 31 December 1992. Work is under way to modify production processes in the existing industrial plant, and when completed, will include waste reduction and recycling facilities. As a result of this activity, ocean dumping of titanium-dioxide wastes will be terminated by the end of 1992.

Guide to Pollution Prevention:
The Marine Maintenance and Repair Industry

9.2 The Meeting was informed by the delegation from the United States (LDC 15/INF.2) that the Marine Maintenance and Repair Industry guide is one of a series of manuals on pollution prevention developed by the US Environmental Protection Agency. The guide has been designed to provide an overview of marine maintenance and repair operations that generate waste and to identify options for minimizing waste generation and source reduction. A series of work sheets have also been included in the guide to assist operators to conduct waste audits of their facilities.

Trade issues in the transfer of clean technologies

9.3 The Meeting was advised that the Technology and Environment Programme of OECD undertook a study as presented in LDC 15/INF.4 to assess the role played by trade-related policies and practices in hindering trade in technologies leading to cleaner production and products. Seven cases were examined where trade in "clean technologies" was occurring, and involved extensive interviewing with major exporters and importers of each technology. The evidence obtained concluded that trade-related policies and practices, including intellectual property rights, did not appear to be a significant obstacle to trade in clean technology. Other obstacles were considered by exporters and importers to be far more important, particularly the lack of access to financing and weak or inadequately enforced environmental regulations, which do not encourage or require the acquisition of clean technologies.

Government policy options to encourage cleaner production and products in the 1990s

9.4 The OECD Technology and Environment Programme concluded in a report presented in LDC 15/INF.5 that government policies and actions to promote use of technologies for cleaner production and products must be closely co-ordinated with industrial policy (e.g., increasing competitiveness; promoting employment; improving productivity). Tools used by governments to encourage cleaner technology (i.e., regulatory programmes, economic instruments, information and training, eco-labelling, voluntary agreements, liability impositions and full disclosure) have had varying degrees of success. Upon reviewing the strengths and weaknesses of the assorted tools, the report identified fourteen propositions for action to help governments with the development and deployment of cleaner production processes and products.

Accessing the International Cleaner Production Clearing House (ICPIC)

9.5 The Meeting was advised (LDC 15/INF.6) that ICPIC is a computer networking system, operated by UNEP's Industry and Environment Programme Activity Centre (Paris), which connects the cleaner production community around the world. The system provides a unique set of information to help promote and implement cleaner production. ICPIC contains a message centre for direct communication among users and a news bulletin and database sections. The cleaner production database includes technical case studies, bibliography, a contact list of experts, a calendar of events and country programme descriptions. Access to the system is by modem via packet switching networks or direct dial.

Cleaner Production Newsletter

9.6 The Meeting was informed (LDC 15/INF.8) that the Cleaner Production Newsletter is published twice a year by UNEP's Industry and Environment Programme Activity Centre and is available in English, Chinese, French and Spanish. Issues contain information to raise awareness about cleaner production and to supplement training activities. The Secretariat advised the Meeting that it has reached agreement with UNEP whereby future issues of the newsletter will be distributed as an LC Circular.

International and Ocean Pollution Symposia

9.7 The Second International Ocean Pollution Symposium (2IOPS) is scheduled to be held in Beijing, China, from 4 to 8 October 1993 (LDC 15/INF.13). The objective of IOPS 2 is to provide a forum for the exchange of ideas and information among scientists involved in marine pollution and ocean disposal research. The Meeting was advised by the Secretariat that efforts would be made to access fellowship grants for representatives of developing countries to attend the symposium. The delegation from China requested Contracting Parties to identify topics for the agenda and to encourage their scientists associated with work on the London Convention 1972 to submit contributions and to attend the Symposium. This was acknowledged with appreciation by the Meeting.

Ministerial Meeting and Second Senior Level Cleaner Production Seminar

9.8 The Secretariat made an oral report on UNEP's Industry and Environment Programme Activity Centre Ministerial Meeting and Cleaner Production Seminar which was held in Paris from 27 to 29 October 1992. The meeting was organized for the purpose of reviewing the advances and the problems being experienced in UNEP's Cleaner Production Programme and to identify direction and opportunities for the future. The seminar produced six working group reports, dealing with policy and strategy issues; industrial approaches to cleaner production; cleaner products; education and training; networking of databases; and cleaner production technical working groups.

9.9 The Meeting expressed its gratitude to the delegations of Spain, the United States, and China, and to UNEP and OECD for the very interesting and useful submissions under this agenda item. The Chairman emphasized that the transfer of information on pollution prevention, cleaner production, waste generation and waste disposal initiatives and actions was extremely useful to all Contracting Parties and encouraged continuing inputs from all delegations.

9.10 The observer from Greenpeace International stated that his organization views this agenda item as very important, and stressed that clean production does not include measures taken after waste is produced. Instead, the application of this concept consists in preventing the generation of waste in the first place.

10 TECHNICAL ASSISTANCE, CO-OPERATION AND DEVELOPMENT

10.1 The Consultative Meeting had before it document LDC 15/INF.20 which was prepared and introduced by the Secretariat. The document provided summary details on technical co-operation activities carried out or supported by the Secretariat during 1992 in various fields related to LC 1972. In addition, the document also provided data on the development of a technical co-operation subprogramme for the protection of the marine environment during the period 1993-1995 which was adopted by the IMO's Marine Environment Protection Committee in March 1992 and subsequently finalized by the Secretariat in the light of that Committee's decisions.

10.2 The Consultative Meeting noted with appreciation that the subprogramme so adopted encompasses issues related to LC 1972 and includes a number of relevant technical co-operation projects and activities which would require appropriate donor financing. In this connection, the Secretariat informed the Meeting that the subprogramme had been submitted to a meeting of donors held at IMO in September 1992 and that a positive response had already been received from Sweden regarding funding of some activities outlined therein. Meanwhile, reactions were awaited from other potential donor countries and organizations.

10.3 The delegation of the Netherlands stated that the technical co-operation programme was very important and welcomed the continuation of activities while additional donor financing was being sought. In this connection, that delegation was willing to consider favourably possible collaboration with the Secretariat in the implementation of technical co-operation activities.

10.4 The delegation of Canada endorsed the measures taken by the Secretariat but, noting the difficulties of raising funds for technical co-operation, regretted that after twenty years greater progress had not been made in this regard. That delegation informed the Meeting that technical co-operation was being discussed by the Working Group on the Long-Term Strategy for the London Convention 1972 and called on Contracting Parties to collaborate in the production of materials on best waste management practices to assist developing countries, and to consider measures to ensure adequate funding for technical co-operation activities.

10.5 In this connection, the Secretariat pointed to the fact that the Global Waste Survey would identify some of the developing countries' needs and this might allow the Consultative Meeting to address the issues of priorities, response actions and financial requirements for technical co-operation.

10.6 The Consultative Meeting accordingly agreed that the ongoing technical co-operation work was relevant and important, that more should be done by Contracting Parties to ensure appropriate funding in the light of obligations under Article IX of the Convention, and that the report of the Working Group on the Long-Term Strategy and the results of the Global Waste Survey could form a basis for future discussion on improving the impact, financial security and continuity of the IMO subprogramme for the protection of the marine environment.

11 MATTERS RELATED TO THE DISPOSAL OF RADIOACTIVE WASTES

Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea (IGPRAD)

11.1 The Chairman of IGPRAD, Ambassador Nascimento-Silva (Brazil) introduced the report of the fifth meeting of IGPRAD (LDC/IGPRAD 5/WP.4/Rev.1). Substantive progress had been made in the further refinement of conclusions on issues before the Panel. The format of the final report, prepared at the previous meeting of IGPRAD, had been used as a basis for the paper prepared intersessionally by the Secretariat (LDC/IGPRAD 5/2). IGPRAD 5 had used this latter paper essentially as a working document and had, accordingly, adopted the overall layout and content of this paper as that of the final report to be completed in 1993. The Chairman of IGPRAD then referred to the nature of discussions on legal, social, economic and political issues and expressed the view that it should be possible, given a further meeting of the Panel, to complete the report in time for it to be considered at the Sixteenth Consultative Meeting. He noted that some delegations to IGPRAD had expressed reservations about the difficulty of obtaining funding to attend a meeting of IGPRAD in July 1993 but still believed that, in order to allow time for the final report to be circulated to Contracting Parties well ahead of the 1993 meeting, such a meeting would be necessary.

11.2 The Chairman of IGPRAD also referred to the document on options prepared by the United States and discussed at IGPRAD 5 (LDC/IGPRAD 5/6). This paper sets out a series of six major options on sea disposal of low-level radioactive waste from which a selection might be made by the Sixteenth Consultative Meeting in the context of the IGPRAD final report. He noted that each of these major options comprised variants that might alter the specific

provisions of each. Nevertheless, IGPRAD had essentially accepted that this range of options should be presented in the final report, with some discussion of their merits and demerits but without a recommendation to the Consultative Meeting necessarily being made. A further option, analagous to that adopted in the recently signed Convention for the Protection of the Marine Environment in the North-East Atlantic, would also be considered for inclusion as an additional option.

11.3 Finally, the Chairman of IGPRAD brought to the attention of the Meeting an additional element of the United States paper on options that stressed the relevance of definitions of "de minimis" or "exemption" in relation to some of the options provided in the paper.

11.4 Following this presentation the Chairman of the Scientific and Technical Working Group of IGPRAD, Mr. J.M. Bowers, (Canada) was asked to comment on the status of technical and scientific issues before the Panel. The Chairman of this Working Group 2 of IGPRAD informed the Meeting that text reflecting consideration of all technical issues referred to the Working Group had now been drafted and, in the main, agreed to by the Panel. Only two sections of the main text on technical and scientific issues remained to be agreed in detail but even these had been agreed in principle. It remained for the Panel to agree on text for the conclusions section on technical and scientific issues at its 1993 meeting.

11.5 The United States delegation, in response to an invitation by the Chairman, then commented further on its paper on options stressing the basis on which the options had been selected.

11.6 In the ensuing discussion, Nauru first stated its view that text already agreed by the Panel should not be open to further revision except perhaps for editorial improvement, and that the final meeting of IGPRAD should concentrate primarily on text not yet agreed by the Panel in detail.

11.7 The observer from Greenpeace International then stated that that Organization was looking forward to participating in the final session of IGPRAD and that, in its view, resolution of the "de minimis" question should not delay a final decision banning radioactive waste dumping at sea, since existing regional agreements banning radioactive waste dumping in many cases operate without a de minimis provision as has the London Convention 1972 during the current voluntary moratorium.

Global Inventory of Radioactive Material Entering the Marine Environment

11.8 In 1988, Contracting Parties to the London Convention 1972 requested the IAEA to develop an inventory of radioactive wastes entering the marine environment from all sources. In response to this request the IAEA has set up a computerized database with three modules:

- a module on Sea Disposal Operations of packaged low-level radioactive wastes;
- a module on Accidents and Losses at Sea which may lead to a direct release of radionuclides into the sea; and

- a module on Low Level Radioactive Liquid Releases from various nuclear installations.

11.9 The first document on the inventory database was entitled "Inventory of Radioactive Material Entering the Marine Environment: Sea Disposal of Radioactive Waste" (IAEA-TECDOC-588) and was distributed at the Fourteenth Consultative Meeting in 1991 (LDC 14/INF.5). This document provides information on a country by country basis on the disposal sites and the annual amounts of radionuclides disposed of at these locations. However, because of additional official information received from Sweden on past dumping operations and the alleged dumping of radioactive wastes by the former USSR, the report now needs to be updated.

11.10 On the subject of the second module of the inventory, a draft document entitled: "Inventory of Radioactive Material Entering the Marine Environment: Accidents and Losses at Sea" was also presented at the Fourteenth Consultative Meeting (LDC 14/INF.2). It was based on reports from the literature. At present, the inventory contains a great deal of data about accidents, but only a fraction of it has been officially confirmed by the Contracting Parties to the London Convention 1972. Additionally, to date only 20 countries have responded to the request for information on sealed sources sent in July 1991 and repeated in August 1992. Thus, the development of the database on accidents and losses at sea still requires further input from the Contracting Parties to the London Convention 1972.

11.11 Concerning the question of the alleged dumping of radioactive wastes into the Kara Sea, on 2 June 1992, an official request for information on this subject was made by the IAEA in the context of the Global Inventory to the Main Department for International Co-operation of the Russian State Committee for Environment Protection, which was identified to IMO as being responsible for the issue of permits for waste disposal at sea as well as for keeping records of such disposals. In addition, at a recent meeting held in Vienna on the subject of the Global Inventory, the information on alleged dumping as is reproduced in the document submitted by Greenpeace International (LDC 15/INF.18) was brought to the attention of the delegation of the Russian Federation.

11.12 The delegation of France informed the Meeting that it would make available to the Secretariat a MINITEL-terminal which would enable entry into two telematic services providing information, in particular on safety, health and radioactivity measurements in the environment.

Assessment of the impact of the radioactive waste dumped in the Arctic Seas

11.13 The IAEA is attempting to address some of the concerns of the Fourteenth Consultative Meeting over the possible impact of the Arctic Sea dumping by holding a meeting on the Assessment of Actual and Potential Consequences of the Dumping of Radioactive Wastes into the Arctic Seas. This meeting will be held in Oslo, Norway, from 1 to 5 February 1993 with co-operation from the Norwegian-Russian expert group. The purpose of the meeting is to start a project which will address international concern over the alleged dumping into the Kara and Barents Seas and to co-ordinate future

efforts on the assessment of present and future impacts. The objectives of the meeting are to:

- .1 present all available information on the waste sources and containments, waste locations, oceanography and potential pathways to man;
- .2 identify and evaluate all available assessment models which could be adapted to the problem;
- .3 develop a scheme for assessing the health and environmental impact of the dumping; and
- .4 consider the feasibility of possible remedial actions including recovery and to propose possible courses of action with regard to the dumped waste materials.

Key experts have already been identified for the meeting. The IAEA will report on progress on this project to the Sixteenth Consultative Meeting.

Matters related to alleged dumping of radioactive wastes

11.14 The delegation of the Russian Federation informed the Meeting of the joint Russian-Norwegian investigations into the alleged dumping of radioactive wastes in the Barents and Kara Seas which had taken place since the Fourteenth Consultative Meeting.

11.15 As mentioned in the joint Norwegian-Russian documents (LDC 15/11 and LDC 15/INF.17), a "Report from the expert group appointed to prepare a proposal for a joint programme to investigate alleged dumping of nuclear wastes in the Barents and Kara Seas" was used as a draft for the scientific programme of the expedition.

11.16 The Russian Federation noted that a commission had been established by the President of the Russian Federation calling upon ministries and authorities concerned to provide to the commission all the existing materials, documents and information related to the alleged USSR dumping of radioactive wastes in the marine environment. Based on the results of the commission, relevant information would be forwarded to LC 1972 and IAEA as soon as possible and no later than May 1993. That delegation also noted that the preliminary findings, as shown in LDC 15/11 and LDC 15/INF.17, did not illustrate contamination levels of concern.

11.17 The Norwegian delegation then stated that from its point of view the joint Norwegian-Russian expedition had two main objectives:

- .1 to take samples of water, sediments and biota from the Barents and Kara Seas in order to establish the levels of radioactivity in these waters; and
- .2 to investigate reputed dumping sites and dumped objects in the Kara Sea and along the eastern shores of Novaja Zemlja in an attempt to evaluate future risks of radioactive contamination of the Arctic seas from these objects.

11.18 This was the first Russian scientific expedition in recent times with participation from a western country allowed to take samples from the Kara Sea. While one part of the programme was carried out in a satisfactory manner, Norway regretted that the joint expedition was not given permission to investigate the alleged dumping sites. This view was shared by many delegations.

11.19 Norway stated further that the final report of this year's expedition will be presented and discussed at "The International Conference on Environmental Radioactivity in the Arctic and Antarctic", to be held at Svanhovd Environmental Centre, Norway, in August 1993. The report of this meeting would be submitted to IAEA and LC 1972 in due course.

11.20 Results of determinations of cesium 137 are included in the preliminary report of the expedition. Analyses to be presented in the final report may have limited importance when it comes to evaluating possible future environmental impacts of the dumping. The final report may, however, provide both valuable information about background levels and estimates of the relative contribution from different sources of radioactivity in the Kara Sea against which future changes can be assessed.

11.21 Norway further informed the Consultative Meeting that, in a meeting of the joint Norwegian-Russian Expert Group in late October 1992, the parties discussed the question of future joint investigations to evaluate the existing and potential consequences of dumped radioactive waste in the Kara Sea, and worked out a joint proposal for a new Norwegian-Russian expedition next season. At this meeting Norway underlined the importance of obtaining official information from the relevant Russian Federation authorities concerning previous dumping of radioactive wastes in the Barents and Kara Seas. In this connection it expressed its appreciation of the efforts now undertaken by the Russian Federation to find out what dumping had occurred previously.

11.22 At its next meeting, the joint Norwegian-Russian Expert Group will decide, pending permission from the relevant Russian authorities, whether to conduct further investigations at dumping sites in territorial waters along the east coast of Novaja Zemlja in 1993.

11.23 The Consultative Meeting of Contracting Parties to the London Convention 1972 will be informed of future findings resulting from these investigations as they become available.

11.24 The observer from Greenpeace International introduced document LDC/INF.18 relating to new information on dumping activities carried out in the Kara and Barents seas. He drew the attention of the Meeting to the failure of the Russian Federation to respond to the request for information made by the Fourteenth Consultative Meeting. In the opinion of Greenpeace International, past dumping activities had now been verified and the word "alleged" should not be used when referring to these past operations. Evidence is available, showing that low-level waste as well as high-level waste, including irradiated nuclear fuel, has been dumped at sea.

11.25 Greenpeace International called on LC 1972 to ask IAEA to include the information furnished in their paper in an updated inventory of radioactive

waste in the marine environment (IAEA Tech.Doc.588), pending additional information from the Russian Federation.

11.26 Greenpeace International also invited the Consultative Meeting to adopt the other actions listed and proposed in section 3 of its document (LDC 15/INF.18), in particular with regard to the need to allow access to the dumpsites to international independent observers, as well as the need to consider the feasibility of retrieval of the wastes, for land storage.

11.27 Following presentation of the papers, a number of interventions were made regarding the alleged dumping of radioactive waste in the Barents and Kara Seas. Many of these interventions, while appreciating the new openness demonstrated by the Russian Federation, included expressions of concern about the unknown nature of the risks posed to man and the environment by such wastes. In this connection, specific regret was expressed about the failure of the former USSR to report any sea dumping of radioactive waste in respect to its returns under LDC 12/16, annex 2. Thanks were expressed to the Russian Federation and Norway for presenting the results of their co-operation since the Fourteenth Consultative Meeting and their future plans for further co-operative work. Thanks were also expressed to Greenpeace International for bringing its information to the attention of Contracting Parties to the Convention.

11.28 There was wide support for the request to the Russian Federation to provide accurate and detailed information about radioactive waste dumping activities, including details of the amounts, nature and packaging of radioactive wastes and specific dumping locations in the Barents and Kara Seas and in any other marine areas off the former USSR such as off Siberia and in the Northwest Pacific off Kamchatka. In this context, appreciation was expressed regarding the decree, by the President of the Russian Federation, of the establishment of the Commission of Enquiry under the chairmanship of Prof. A. Jablovskiy charged with investigating the alleged dumping at sea of radioactive wastes which would hopefully result in the acquisition of concrete and comprehensive information of great benefit to the London Convention 1972 and the IAEA. This announcement was regarded as a reflection of the seriousness and sincerity with which the Russian Federation was taking the request for information made at the Fourteenth Consultative Meeting.

11.29 The delegation of the Russian Federation assured the Meeting that no dumping of radioactive waste was now taking place and that the Russian Federation adhered to all regulations and recommendations of the London Convention 1972, including the moratorium, and all relevant information would be provided to the Secretariat of the London Convention 1972 and to the IAEA as soon as possible after the Commission concluded its investigation and its report to the President of the Russian Federation. At the same time, it expressed its concern with regard to an attempt to use, within a legal instrument, unofficial sources of information. This could create a dangerous precedent for this and other international fora.

11.30 Reservations were expressed about the recommendation by Greenpeace International advocating the recovery and land disposal of any undamaged and integral containers of radioactive wastes. These delegations stressed that any remediation measures should be based on a thorough evaluation of the

severity of damage and risks as well as a balanced appreciation of remediation options.

11.31 Other delegations noted that the alleged dumping reportedly was carried out in shallow waters and that consideration should be given to retrieval of the materials dumped without undue risk to human safety.

11.32 In response to the expressed reservations, Greenpeace International recalled that it suggested consideration of recovery pursuant to independent investigation, but it felt it to be extremely important that the Consultative Meeting should stress that when illegally dumped wastes are found, attempts to retrieve them must be undertaken.

11.33 A draft resolution on investigations into the alleged USSR dumping of radioactive wastes in the marine environment was prepared by a drafting group led by the Netherlands (LDC 15/WP.6/Rev.1). While there were no objections to the requests contained in the draft resolution, there was concern expressed about the appropriateness of using a resolution form. The Meeting subsequently agreed to make the following requests:

- .1 the Russian Federation to include in the information which will be provided to the Secretariats of both the London Convention 1972 and the International Atomic Energy Agency, as soon as possible and not later than 1 May 1993, data on the nature and quantities of all materials dumped, and the location, time and method of dumping if any such dumping is confirmed to have taken place;
- .2 the Russian Federation to permit the extension of the joint Norwegian-Russian survey in 1993 in order to provide access to sites within marine waters under Russian coastal State jurisdiction where the dumping has reportedly taken place;
- .3 the Russian Federation to undertake studies including site surveys in international co-operation if it transpires that dumping of radioactive matter has also occurred in other marine areas besides the Barents Sea and the Kara Sea;
- .4 the International Atomic Energy Agency to continue its participation in relevant investigations and its assessment of the associated risks to human health and the marine environment and to report their findings as soon as possible and no later than at the Sixteenth Consultative Meeting;
- .5 the International Atomic Energy Agency and the Russian Federation to indicate scientific and technical measures to reduce, as much as possible, any significant risk including remedial actions such as capping, retrieval and storage on land;
- .6 all Contracting Parties to consider provision upon request of relevant and adequate assistance to the Russian Federation, Norway and the International Atomic Energy Agency for the planned survey and for possible remedial activities to reduce the risks;

- .7 all States and relevant international and regional organizations to co-operate in this important undertaking and to consider expeditiously the needed assistance;
- .8 the Russian Federation and the International Atomic Energy Agency to act in accordance with these requests and in co-operation with the Government of Norway;
- .9 the Secretariat of the London Convention 1972 to inform all Contracting Parties by Circular letter and to specifically notify the Government of the Russian Federation, the Government of Norway and the International Atomic Energy Agency of these requests.

11.34 Following the agreement on the requests mentioned in paragraph 11.33, the delegations of Australia, Nauru, New Zealand, the United States and Vanuatu noted that any dumping of radioactive waste in the Pacific Ocean would be reported in response to paragraphs 11.33.1 and 11.33.3.

11.35 Clarification was requested from the IAEA regarding the specific nature of information that might be required in respect of the reference to ".... nature and quantities of all materials dumped, and the location, time and method of dumping" (paragraph 11.33.1). In response, the IAEA representative informed the meeting that the following information might be expected:

- date of dumping;
- number of packages;
- weight of packages;
- volume of packages;
- content of packages (nature of waste and the content of various radionuclides in the waste);
- construction of packages;
- dump site - co-ordinates (latitude and longitude)
 - water depth.

12 RELATIONS WITH OTHER ORGANIZATIONS

GESAMP

12.1 The Secretariat, with the assistance of a member of GESAMP introduced the response of GESAMP (LDC 15/12) to the critiques of GESAMP Reports and Studies Nos.45 and 39 by Greenpeace International submitted to the Fourteenth Consultative Meeting (LDC 14/INFs.29 and 30 respectively).

12.2 GESAMP responded to the first of these critiques by explaining the nature and scope of GESAMP Reports and Studies No. 45 entitled "Global Strategies for Marine Environment Protection". It explained that it is the intent of the GESAMP report to describe the role of science in the formulation of an international strategy for environmental protection in the context of social and economic development.

12.3 The framework developed by GESAMP is intentionally broad in scope. GESAMP recognizes that judgements about the acceptability of risks and harm are made at the political level. However, scientific input in the form of

assessments of the nature and severity of risks and harm are both legitimate and necessary. GESAMP believes that the absence of a comprehensive framework, identifying the essential elements of environmental management and protection, contributes to the continuing degradation of the oceans.

12.4 In LDC 15/12 GESAMP responded to the second critique by Greenpeace International of GESAMP Reports and Studies No.39 entitled "The State of the Marine Environment". This response attempts to clarify GESAMP's perspective on the ranking of marine environmental problems, the scientific nature of the distinction between coastal and oceanic environments, the relative cleanliness of the open ocean, the impact of increased development and urbanization of the coastal zone, and the distinction between contamination and pollution adopted by GESAMP. GESAMP wanted to reassure Contracting Parties to the London Convention 1972 that, contrary to the views expressed by Greenpeace International, the wide consultative process adopted in the preparation of GESAMP Reports and Studies No.39 lends authority to its conclusions. Accordingly, GESAMP believes that its review of "The State of the Marine Environment" constitutes the most authoritative evaluation of conditions in the marine environment in recent years.

12.5 It was stressed that GESAMP welcomes such commentary and questions on its reports as a means of stimulating debate on the opportunities for resolving environment and development conflicts at national, regional and global levels.

12.6 The observer from Greenpeace International thanked GESAMP for its responses but stated that no answers were given on some fundamental questions which Greenpeace had posed to GESAMP.

IOC

12.7 Document LDC 15/INF.15 entitled "IMO Sponsorship of the GIPME Programme" was introduced by the representative of the IOC. This paper was submitted following discussions between the IMO and IOC Secretariats. The paper outlines the nature of the programme of "Global Investigations of Pollution in the Marine Environment (GIPME)" which includes mechanisms for evaluating the state of health of the marine environment, for identifying instances in which preventative or remedial measures are required, and for undertaking surveillance monitoring and assessments of conditions and effects in the marine environment. IMO already co-sponsors one of the GIPME Groups of Experts, that on the Effects of Pollutants (GEEP). It had also co-sponsored workshops on the evaluation of techniques for the detection and quantification of biological effects and other regional workshops on marine environmental issues. The GIPME Programme has provided assistance to MEPC on the identification of "particularly sensitive sea areas" that is the subject of ongoing collaboration between IMO, IOC and other agencies. The activities of all GIPME supporting Expert Groups are intimately interlinked. Accordingly, co-sponsorship of GIPME as an entity by IMO would offer benefits of improved harmonization and optimization of marine environmental protection activities. Such enhanced collaboration between IOC and IMO would be both consistent with, and responsive to, the results of UNCED and its AGENDA 21. IOC invited the Consultative Meeting to recommend IMO co-sponsorship of GIPME to the next session of the IMO Council.

12.8 Following the presentation of the paper by the IOC Secretariat, the Meeting agreed to recommend IMO co-sponsorship of the GIPME Programme to the IMO Council prior to its next meeting from 16 to 20 November 1992.

Oslo and Paris Commissions

12.9 The Secretary of the Oslo and Paris Commissions explained that the Commissions had published in 1992 a series of reports about their activities during the period 1987-1990 (LDC 15/INF.10). One of these reports contained statistics about dumping and incineration operations (permits and quantities) which had taken place in the North East Atlantic during that period. Other reports concerned monitoring, industrial sectors, discharges of wastes and radioactive substances, nutrients and discharges of oil.

UNEP

12.10 The representative of UNEP stated that the Regional Seas Programme of UNEP within the mandate given by its Governing Council is currently working in the areas of integrated coastal area management (as described in LDC 15/INF.7) and marine pollution.

12.11 The UNEP Regional Seas Programme, and in particular its Oceans and Coastal Areas Programme Activity Centre (OCA/PAC), supports research, monitoring and control of marine pollution through the 13 existing action plans, with the co-operation of other UN organizations such as IAEA, IOC, FAO and WHO. OCA/PAC co-sponsors the GIPME Programme and its Expert Groups in co-operation with IOC. UNEP is also involved in the formulation of procedures for the prevention of marine pollution from land-based sources of pollution. IMO was actively involved in the process of drafting a strategy for control of land-based sources of pollution which was discussed in the intergovernmental meeting held in Nairobi in December 1991.

12.12 UNEP's budget for 1992-93 is insufficient to deal with the several tasks identified by UNCED. Nevertheless OCA/PAC will maintain support to developing countries for the preparation of inventories of land-based sources of pollution at the national level. This information may be useful to IMO for inclusion in the database of the Global Waste Survey.

12.13 UNEP remains ready to co-operate closely with LC 1972 by sending representatives of regional bodies of the Regional Seas Action Plans to meetings held within the framework of the London Convention 1972, by welcoming IMO support for the implementation of the Regional Seas Action Plans and Conventions; and by encouraging increased membership of the London Convention 1972.

Basel Convention

12.14 The Co-ordinator of the Interim Secretariat of the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal informed the Meeting that the Convention entered into force on 5 May 1992 and that to date there were 33 Parties to that Convention.

12.15 The first meeting of the Conference of Parties would be held in Uruguay from 30 November to 4 December 1992. That meeting was expected to consider

the implementation of Resolution 2 of the Final Act of the Basel Conference on the relationship of the Basel Convention and the London Convention 1972 and appropriate resolutions adopted by the Consultative Meeting of the London Convention 1972 (in particular resolution LDC.45(14)).

12.16 The Co-ordinator further informed the Meeting that it was expected that at their first meeting the Contracting Parties to the Basel Convention would consider and eventually adopt technical guidelines (including costs of the various disposal operations) for the environmentally sound management of wastes, as requested by Resolution 8 of the Final Act of the Basel Conference. She briefly informed the Meeting about other items on the agenda for the first meeting and urged all Parties to the London Convention 1972 to become Parties to the Basel Convention, emphasizing the good working relations which have developed between the two Secretariats during the last three years.

ACOPS initiative on land-based sources of marine pollution in the Commonwealth of Independent States

12.17 The observer from ACOPS informed the Meeting that its programme on land-based sources of marine pollution in the seas adjacent to the Commonwealth of Independent States (CIS) was formally initiated at a conference in Sevastopol organized jointly by its Sevastopol and London Offices between 6 and 10 April 1992. The conference received presentations from a wide range of representatives of the independent scientific, economic and legal communities throughout the CIS, as well as from representatives of UNESCO, the World Bank, IAEA, LC 1972 and the Governments of the Russian Federation, Ukraine, Sweden, Germany and Canada.

12.18 The recommendations adopted at the conference have been circulated to the governments of coastal States in the four areas covered by the ACOPS programme and widely within the UN system. The recommendations are reproduced in LDC 15/INF.3.

12.19 ACOPS invited the Meeting to note the conclusions and to make comments as appropriate, which will be transmitted to the next meeting of ACOPS' CIS programme to be held at Arkhangelsk from 19 to 23 July 1993. In the meantime, ACOPS' Sevastopol and London Offices are carrying out multi-disciplinary studies for the World Bank on Land-Based Sources of Marine Pollution (LBSMP) in the CIS, with special emphasis on the Black Sea and the Arctic.

12.20 Finally, ACOPS expressed its gratitude for the support it has received for its CIS programme from UNESCO, the Commission of the European Communities and the World Bank, as well as the Governments of Canada, Denmark, Finland, Germany, Norway, Sweden, the United Kingdom and the United States.

Information on newly established PICES and RWGMEOS/ESCAP

12.21 The Meeting noted that the North Pacific Marine Science Organization (PICES) was formally established in March 1992 in Toronto, Canada. The first annual meeting of PICES was held in Victoria, British Columbia, Canada, from 12 to 17 October 1992. At that meeting four Scientific Committees were established: Fisheries; Biological Oceanography; Physical Oceanography; and Climate and Marine Environmental Quality (MEQ). A Working Group entitled "Assessment methodology on marine environmental quality" under MEQ/PICES was

also established. Waste disposal at sea is one of the important concerns in the PICES region.

12.22 The delegation of China also noted that a Regional Working Group on Marine Environment and Oceanographic Studies under the UN Economic and Social Commission for Asia and the Pacific (RWGMEOS/ESCAP) was established on 28 September 1992 at Guangzhou, China. Waste disposal at sea is also one of the important problems in this region. Both the MEQ/PICES and RWGMEOS/ESCAP needed support from international organizations, especially IMO, UNEP, IOC, ICES and GESAMP. MEQ/PICES and RWGMEOS/ESCAP extended their congratulations to the London Convention 1972 on the Twentieth Anniversary of its adoption. The member countries of ESCAP are mostly developing countries and the Meeting was informed that RWGMEOS/ESCAP will encourage countries in this region to become Contracting Parties to LC 1972.

13 FUTURE WORK PROGRAMME AND DATE OF NEXT SESSION

Future work programme and date of the Sixteenth Consultative Meeting

13.1 The Meeting agreed that the Sixteenth Consultative Meeting should be convened from 8 to 12 November 1993, and agreed that the substantive items to be included in the provisional agenda of the Meeting would be determined by the Chairman, the Vice-Chairmen and the Secretariat, the result of which appears in annex 6.

Future work programme of the Scientific Group

13.2 The Meeting took note of the three-year work programme of the Scientific Group (LDC/SG 15/17, annex 4) and agreed that the list of substantive items proposed for inclusion in the sixteenth, seventeenth and eighteenth meetings of the Scientific Group would be determined by the Chairman, the Vice-Chairmen, the Chairman of the Scientific Group and the Secretariat, the result of which appears in annex 7.

Dates of subsidiary bodies

13.3 The Consultative Meeting agreed that:

- .1 the sixth and final meeting of the Inter-Governmental Panel of Experts on the Disposal of Radioactive Waste at Sea (IGPRAD 6) should be convened from 12 to 16 July 1993;
- .2 the sixteenth meeting of the Scientific Group should be convened from 10 to 14 May 1993;
- .3 a special meeting of Contracting Parties to negotiate amendments to the Convention and/or its Annexes should be convened from 19 to 23 July 1993; and
- .4 there would be no intersessional meeting of the ad hoc Group of Legal Experts.

14 ANY OTHER BUSINESS

14.1 The Consultative Meeting took note of the request for guidance from the IMO Legal Committee with respect to inclusion of acts of dumping in the draft Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (LDC 15/14).

14.2 The Consultative Meeting held a preliminary discussion of the request of the Legal Committee, including issues relating to the applicability of the London Convention 1972 to illegal or unauthorized dumping and the scope of the force majeure provisions in Article V of the London Convention 1972.

14.3 The Consultative Meeting noted in general that the London Convention 1972 addresses both authorized and unauthorized dumping. However, it noted that there may be factual and legal issues as to whether the activity in question is unauthorized dumping within the meaning of the London Convention 1972 or is illegal discharge within the meaning of MARPOL 73/78. Taking these considerations into account, the Consultative Meeting expressed the preliminary view that the London Convention 1972 is an appropriate forum to address unauthorized dumping in any liability regime that might be developed pursuant to Article X.

14.4 The Consultative Meeting concluded, however, that these questions raised complex legal issues which should be reviewed by the ad hoc Group of Legal Experts with a view to providing additional guidance to the IMO Legal Committee. These issues include:

- .1 the applicability of Articles IV and V of the London Convention 1972 to cargo loaded or intended for a purpose other than dumping; and
- .2 the relationship between unauthorized dumping within the meaning of the London Convention 1972 and illegal discharges within the meaning of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).

14.5 The Consultative Meeting requested the Secretariat to convey its preliminary views to the IMO Legal Committee and to inform the Legal Committee that the Consultative Meeting has referred the matter to the ad hoc Group of Legal Experts to be discussed at a future meeting with a view to providing additional guidance to the Legal Committee at a later date.

14.6 The observer from Greenpeace International reminded the Meeting of obligations in Article VII dealing with the issue of sovereign immunity. In the opinion of Greenpeace this Article should be revisited some time in the future; however the purpose of the present intervention was to draw the attention of the Meeting to the obligation contained in the Article for Contracting Parties to inform the Organization of actions taken under the provisions of this Article. The Secretary agreed to include a reminder of this obligation when preparing the annual request to Contracting Parties for information on dumping activities.

14.7 The observer from Liberia suggested that items that had not been considered by the Working Group on the Long-Term Strategy for the Convention,

were the possibility of the Convention becoming self-supporting, and, as a matter of principle, the implementation of all of the provisions of Article XIV(2) of the London Convention 1972. The Chairman of the Working Group on the Long-Term Strategy agreed that a Convention independent of IMO was a viable consideration and one that had significant implications for Contracting Parties. He pointed out however that IMO had been designated as the Organization to administer the Convention and had carried out this task extremely well. Although the possibility of the Consultative Meeting taking action on such a suggestion had been discussed briefly in the past, it had never been accorded a high priority.

15 ELECTION OF CHAIRMAN AND VICE-CHAIRMEN

In accordance with rule 19 of the Rules of Procedure, the Meeting re-elected Mr. D. Tromp (the Netherlands) as Chairman for the intersessional period and for the Sixteenth Consultative Meeting. Mr. A. Sielen (United States) was re-elected First Vice-Chairman and Ambassador G.E. do Nascimento e Silva (Brazil) was re-elected Second Vice-Chairman.

16 CONSIDERATION AND ADOPTION OF THE REPORT

The report of the Fifteenth Consultative Meeting of Contracting Parties to the London Convention 1972, including the resolution of the Meeting as set out in annex 5 to the report, was considered and adopted on the final day of the meeting (13 November 1992).

ANNEX 1

AGENDA FOR THE FIFTEENTH CONSULTATIVE MEETING

- 1 Adoption of the Agenda
 - LDC 15/1 - Secretariat
 - LDC 15/1/1 - Secretariat
- 2 Status of the London Dumping Convention
 - LDC 15/2 - Secretariat
- 3 Review of the outcome of the United Nations Conference on Environment and Development (UNCED)
 - LDC 15/3 - Secretariat
 - LDC 15/3/Add.1 - Secretariat
 - LDC 15/3/1 - Secretariat
 - LDC 15/INF.19 - Greenpeace International
 - LDC 15/WP.5 - Working Group
- 4 Long-term strategy for the Convention
 - LDC 15/WP.5 - Working Group
- 5 Amendments to the Convention and its Annexes
 - LDC 15/5 - Greenpeace International
 - LDC 15/5/1 - Denmark
 - LDC 15/5/2 - United States
 - LDC 15/5/3 - Secretariat
 - LDC 15/INF.11 - Oslo and Paris Commissions Secretariat
 - LDC 15/INF.14 - Secretariat
 - LDC 15/WP.7 - Working Group
- 6 Consideration of the report of the Scientific Group
 - LDC 15/6 - Secretariat
 - LDC 15/INF.9 - IAPH
 - LDC 15/WP.2 - Secretariat
 - LDC 15/WP.4 - Working Group on Notification Procedures
- 7 Matters related to the incineration of wastes at sea
 - LDC 15/7 - Secretariat
 - LDC 15/WP.1 - Secretariat
 - LDC 15/WP.3/Rev.2 - Denmark, the Netherlands, New Zealand and Sweden

8 Sea disposal of industrial wastes

LDC 15/7	-	Secretariat
LDC 15/WP.1	-	Secretariat

9 Information exchange on waste prevention and clean production methods, waste production and disposal

LDC 15/9	-	Spain
LDC 15/INF.2	-	United States
LDC 15/INF.4	-	Secretariat
LDC 15/INF.5	-	Secretariat
LDC 15/INF.6	-	Secretariat
LDC 15/INF.8	-	Secretariat
LDC 15/INF.13	-	Secretariat

10 Technical assistance, co-operation and development

LDC 15/INF.20	-	Secretariat
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11 Matters related to the disposal of radioactive wastes

LDC 15/11	-	Norway and the Russian Federation
LDC 15/INF.17	-	Norway and the Russian Federation
LDC 15/INF.18	-	Greenpeace International
LDC 15/WP.6/Rev.1	-	Draft resolution (revision)
LDC/IGPRAD 5/WP.4/Rev.1	-	Secretariat

12 Relations with other organizations

LDC 15/12	-	Secretariat
LDC 15/INF.3	-	ACOPS
LDC 15/INF.7	-	UNEP
LDC 15/INF.10	-	Secretariat
LDC 15/INF.12	-	Secretariat
LDC 15/INF.15	-	IOC
LDC 15/INF.16	-	IAEA

13 Future work programme and date of next session

14 Any other business

LDC 15/14	-	Secretariat
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15 Election of Chairman and Vice-Chairmen

16 Consideration and adoption of the report

LDC 15/WP.8	-	Draft report of LDC 15
LDC 15/WP.8/Add.1	-	Draft report of LDC 15 (Cont'd)
LDC 15/WP.8/Add.2	-	Draft report of LDC 15 (Cont'd)

LDC 15/INF.1	-	List of Participants
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ANNEX 2

STATUS OF INTERSESSIONAL AND FUTURE WORK ON THE LONG-TERM STRATEGY
OF THE LONDON CONVENTION 1972 ASSIGNED BY THE FIFTEENTH CONSULTATIVE MEETING*

The Fifteenth Consultative Meeting, in considering the work necessary to improve and make more effective the future implementation of its Articles and to enhance the status and membership of the Convention, approved the following actions and priorities (L - low; M - medium; H - high). The following paragraphs describe actions taken or recommended action. In order to be more precise, items appearing in LDC 14/16, annex 8 and interpreted as "administrative activities of the Secretariat" have been removed or transferred where appropriate to actions for the Consultative Meeting.

<u>Item</u>	<u>Priority</u>	<u>Actions</u>
1 Actions for the Consultative Meeting		
.1 agree on the preparation of an easily accessible and readable information package for distribution to non-Contracting Parties	H	To be undertaken by the Secretariat once the capability has been acquired
.2 publish a list of Contracting Parties which are not complying with reporting requirements	Ongoing	Undertaken by the Secretariat
.3 maintain close co-operation with other UN Agencies in the implementation of UNCED decisions	H	Ongoing responsibility for the Secretariat leading to regular reports to the Consultative Meeting
.4 improve the flow of information to developing countries through the efforts of the Secretariat and through networks available in other UN Agencies	Ongoing	Responsibility of the Secretariat
.5 consider how financial support could be achieved from developed countries to improve and intensify assistance to those Contracting Parties from countries which are in a less developed state	H	Encourage Contracting Parties to consider contributing to IMO Global Programme for the Protection of the Marine Environment
.6 consider actions and decisions leading to better liaison with regional organizations and encouraging them to provide contributions to Consultative Meetings. In dealings with regional organizations and with non-Contracting Parties the incentives available for co-operation with, or accession to the London Convention 1972 should be explored	H	Ongoing responsibility of the Secretariat and Consultative Meetings

* Contracting Parties also developed two other lists of issues for further consideration: a list of core issues which will be examined as the basis for possible amendments to the Convention and/or its Annexes; and a second list of issues for consideration as part of the long-term strategy (LC 15/16, annex 3, appendix)

- | | | | |
|-----|---|---------|---|
| .7 | consider expanding the scope of the Convention, for example, to include discharges from offshore installations (LDC 13/15, paragraph 5.36.5); and | Ongoing | Concept paper prepared as LDC 14/7/6. Revisit issue when UNCED process has been completed |
| .8 | consider problems related to polluted sites that have been caused by past intentional or accidental disposal of materials into the marine environment and the need for national or regional action (LDC 13/15, paragraph 5.36.5) | H | Need for future consideration |
| .9 | provide guidance on how to interpret the exemption contained in Article III(1)(b)(ii) with regard to "placement of matter for a purpose other than mere disposal thereof, provided that such placement is not contrary to the aims of this Convention". Examples include artificial reefs and islands | M | Need for future consideration |
| .10 | consider ways to ensure compliance and possible enforcement of the Convention Articles. It is recognized that a first requirement is adequate reporting arrangement | H | This is a responsibility of the Contracting Parties and activity of the Secretariat that would be enhanced by an increased capability in office information |

2 Legal Actions

- | | | | |
|----|---|---|---|
| .1 | continue work related to the development of procedures for the assessment of liability regarding dumping of wastes at sea | L | Ongoing |
| .2 | provide guidance on what constitutes an "emergency" case where a special permit could be issued for the disposal at sea of wastes and other matter containing substances listed in Annex I | M | Secretariat to issue circular letter clarifying difference between emergency and <u>force majeure</u> |
| .3 | consider measures for improving the control of dumping activities from ships flying the flag of a Contracting Party in waters of a non-Contracting Party, in particular where dredging operations are involved; | M | Questionnaire prepared; see LDC 14/16, annex 3 |
| .4 | provide guidance for the implementation of Article VII(2) concerning measures that should be taken by Contracting Parties to prevent and punish conduct in contravention of the provisions of the Convention; | L | To be addressed |
| .5 | consider the development "of procedures for the effective application of this Convention particularly on the high seas" as requested by article VII(3); and | L | To be addressed |

- .6 consider the establishment of amendments to L To be addressed
Article VII with a view to clarifying the
responsibilities and rights of coastal States
to apply the Convention in a zone adjacent to
their coasts as required by Article XIII.

ANNEX 3PROCEDURE FOR THE PRIORITY CONSIDERATION OF
AMENDMENTS TO THE CONVENTION

1 Contracting Parties agreed to the following procedure for the priority consideration of amendments to the Convention with a view to adoption at a special Consultative Meeting to be held in late 1994.

2 Thirteen core issues will be examined by Contracting Parties as the basis for possible amendments to the Convention and/or its Annexes. Contracting Parties also developed a second list of issues for consideration as part of the Convention's long-term strategy. These issues contemplate a variety of possible actions by Contracting Parties, including additional amendments to be discussed at a later stage. This second list of issues is attached in an appendix to this annex. Inclusion of any item on the second list is without prejudice to whether the London Convention 1972 is the appropriate forum for its consideration.

3 The core issues are:

Issue 1 - Re-definition of "Sea" (Art. III(3) of the Convention)

Objective: To consider whether to extend the definition of "Sea" to include the sub-seabed in order that the Convention covers the disposal of waste in sub-seabed repositories accessible from the sea.

Basis: Resolution LDC.41(13)

Issue 2 - Extension of technical and scientific co-operation under Article IX

Objective: To consider extending such co-operation to matters like waste avoidance and clean production processes, as they relate to dumping at sea. Relevant programmes of UNCED Agenda 21 could be considered in this regard.

Basis: Under Article IX steps could be pursued in line with Agenda 21, Chapter 34, paragraph 14(b) as adopted by UNCED: "..... developing countries are to have access, on favourable terms, including on concessional and preferential terms as mutually agreed, to environmentally sound technologies and corresponding know how, taking into account the need to protect intellectual property rights as well as the special needs of developing countries" for the implementation of the Convention as amended.

Issue 3 - Basis for amendments to the Annexes

Objective: Consider extending the basis for amendments to the Annexes of the Convention beyond scientific and technical considerations to, for example, legal, political, economic and social considerations.

Basis: Resolution LDC.28(10), which contains the terms of reference for IGPRAD.

Issue 4 - Consider prohibition of disposal of radioactive wastes at sea

Basis: Resolutions LDC.14(7), LDC.21(9), LDC.28(10), Agenda 21, Chapter 22, paragraph 5.

NB: There is a related issue as to whether a definition or other description of "radioactive waste" is needed. With regard to this, there is also a link with the footnote in resolution LDC.43(13), which defines "industrial wastes".

Issue 5 - Consider prohibition of disposal of industrial wastes at sea

Basis: Resolution LDC.43(13)

The definition of "industrial wastes" as contained in resolution LDC.43(13) reads as follows:

"Industrial Wastes" means waste materials generated by manufacturing or processing operations. It does not include inert materials and uncontaminated organic materials of natural origin.

NB: There is a related issue as to whether a definition or other description of "industrial wastes" is needed and as to whether the definition of industrial wastes in the above resolution and the exceptions it contains need to be modified.

Issue 6 - Consider prohibition of incineration of wastes at sea

Basis: Resolution LDC.35(11), Resolution LC.47(15), Agenda 21, Chapter 17.30

NB: There is a related issue as to whether a definition or other description of incineration at sea is needed.

Issue 7 - Export of wastes for the purpose of disposal at sea

Objective: Consider prohibiting the export of wastes for sea disposal to States which are not Contracting Parties to the London Convention 1972

Basis: Resolution LDC.42(13)

Issue 8 - Precautionary Approach

Objective: Consider inclusion of a precautionary approach to environmental protection within the framework of LC 1972.

Basis: Resolution LDC.44(14)

4 The inclusion of the above issues, based upon the proposals for amendments to the Convention contained in document LDC 15/5/1, submitted by Denmark, Norway and Iceland, received considerable support by Contracting Parties. In addition, the following issues were considered for possible amendment of the Annexes and articles.

Issue 9 - Redefinition of "Sea" (Art. III(3) of the Convention)

Objective: To consider whether to expand the coverage of the Convention to include internal waters.

Basis: Provisions under regional Conventions could be used as an example, e.g. Convention for the Protection of the Marine Environment of the North-East Atlantic, Art.I(b) and (c):

"Internal Waters" means the waters on the landward side of the baselines from which the breadth of the territorial sea is measured, extending in the case of watercourses up to the freshwater limit;

"Freshwater limit" means the place in a watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of seawater.

Issue 10 Reporting, compliance and enforcement provisions of the Convention

Objective: Consider enhancing reporting, compliance and enforcement provisions of the Convention in order to meet its objectives and thereby increase its effectiveness.

Basis: Article VII(2) of the Convention;

Issue 11 - Waste Assessment Framework

Objective: Consider improved coherent implementation of the Convention and link Annexes I, II, and III of the Convention with the principles of sound waste management, including consideration of the "reverse listing" mechanism.

Basis: Agreement by Fifteenth Consultative Meeting to adopt the WAF on a provisional basis (LC 15/16, paragraph 6.14).

Issue 12 - Artificial Reefs

Objective: Consider amendment of relevant provisions of the Convention to provide for regulation of placement of artificial reefs.

Basis: Art.III(1)(b)(ii)
Similar provisions under regional Conventions could be used as an example, e.g. Convention for the Protection of the Marine Environment of the North-East Atlantic, Art.1(g)(ii) and Annex II, Art.5:

"placement of matter for a purpose other than the mere disposal thereof, provided that, if the placement is for a purpose other than that for which the matter was originally designed or constructed, it is in accordance with the relevant provisions of the Convention".

"No placement of matter in the maritime area for a purpose other than that for which it was originally designed or constructed shall take place without authorisation or regulation by the competent authority of the relevant Contracting Party. Such authorisation or regulation shall be in accordance with the relevant applicable criteria, guidelines and procedures adopted by the Commission in accordance with Article 6 of this Annex. This provision shall not be taken to permit the dumping of wastes or other matter otherwise prohibited under this Annex."

Issue 13 - Cross-media impacts of pollution/holistic approach

Objective: Consider new obligations to prevent transfer of pollution from one part of the environment to another.

Basis: Resolution LDC.43(13), paragraph 7: "To apply measures in a manner that prevents any additional pollution of other parts of the environment".

Provisions under regional Conventions could be used as an example, e.g. Convention for the Protection of the Marine Environment of the North-East Atlantic, Art.2(4):

"The Contracting Parties shall apply the measures they adopt in such a way as to prevent an increase in pollution outside the maritime area or in other parts of the environment".

5 The Secretariat will make a compilation of proposed amendments in each of these 13 areas for circulation to Contracting Parties. Contracting Parties are requested to submit to the Secretariat their proposals in any of these areas by 1 April 1993.

6 The list of 13 core issues (see paragraphs 3 and 4) will be submitted by the Secretariat to the Scientific Group for consideration at its sixteenth meeting in May 1993. The Scientific Group is requested to provide scientific and technical guidance on any of the thirteen core issues.

7 Contracting Parties will meet at a special negotiating session to be held from 19 to 23 July 1993 in conjunction with the final meeting of IGPRAD to consider all aspects of the proposed amendments including scientific and legal aspects.

8 The negotiating text as developed by Contracting Parties at this negotiating session will be presented to the Sixteenth Consultative Meeting for discussion, with a view to reaching agreement.

9 After the Sixteenth Consultative Meeting, the Secretariat will distribute a consolidated draft text of proposed amendments in all official languages.

10 In February 1994 a meeting of jurists/linguists will revise the draft text of proposed amendments to ensure consistency in all official languages.

11 In April 1994, the Secretariat will distribute a revised text of proposed amendments to all Contracting Parties in accordance with article XV(1)(a) and resolution LDC.9(V).

12 An extended Consultative Meeting will be held in late 1994 for formal adoption of proposed amendments to the Convention and its Annexes.

13 The Secretariat shall invite States which are not Contracting Parties to the London Convention 1972 to participate in the negotiating process and at the extended Consultative Meeting as observers, and to accede to the Convention as amended.

14 Contracting Parties agreed that the above procedure should allow for flexibility in the preparatory work leading to the 1994 special Consultative Meeting with respect to timing, distribution of key documents and the possible convening of additional meetings as necessary. In this regard, Contracting Parties request the International Maritime Organization to make every effort to ensure that adequate financial resources are available to cover the programme of work outlined above.

APPENDIX

SECOND LIST OF ISSUES

- 1 Develop guidelines and/or standards for capping abandoned wellheads.
- 2 Amend the Convention to outline goals for "the elimination of pollution of the sea by dumping of wastes and other matter and, where appropriate, the protection of the marine environment against pollution". On the specific issue of protection of the marine environment, the present Article XII of the Convention calls upon Contracting Parties "..... to promote, within the competent specialized agencies and other international bodies, measures to protect the marine environment". This pledge should be identified as an aim of the Convention (consistent with Part XII of the United Nations Convention on the Law of the Sea) and thus be reflected in the general provisions of the amended Convention.
- 3 Add the polluter pays principle as expressed in Principle 16 of the Rio Declaration on Environment and Development, as well as Article 2, paragraph 2(b) of the Convention for the Protection of the Marine Environment of the North East Atlantic.
- 4 Delete and/or revise Article VII(4) of the Convention so that:
 - .1 Parties will respect the Convention in time of armed conflict;
 - .2 the Convention will apply to dumping of vessels and aircraft entitled to sovereign immunity; and
 - .3 the Convention will apply to dumping by vessels and aircraft entitled to sovereign immunity.
- 5 Prohibit the dumping of sewage sludge at sea.
- 6 Add measures to address discharges from platforms or vessels involved in mineral resource exploration or exploitation in marine areas subject to national jurisdiction.
- 7 Create possibilities for taking binding decisions by the Consultative Meeting.
- 8 Add measures to address discharges and emissions from, and safety on offshore installations (AGENDA 21, 17.30(c)).
- 9 Add regular review and consideration of environment and development issues with respect to marine and coastal areas (AGENDA 21, 17.117(c)).
- 10 Add regular exchange of information on marine degradation caused by sea-based activities and on actions to prevent, control and reduce such degradation (AGENDA 21, 17.35(b)).

- 11 Develop a centralized system to provide for information on legislation and advice on implementation of legal agreements on marine environmental and development issues (AGENDA 21, 17.118(e)).
- 12 Add measures to prevent illegal international traffic in hazardous wastes (AGENDA 21, 20 Prog.A.D.).
- 13 Add actions enabling and/or facilitating relevant programmes connected with the protection of the marine environment in countries with economies in transition.

ANNEX 4

WASTE ASSESSMENT FRAMEWORK FOR THE
LONDON CONVENTION 1972

Preamble

It is envisaged that the Waste Assessment Framework (WAF) will constitute a precautionary approach as well as a practical procedure for managing waste in compliance with the London Convention 1972. Uncertainties in relation to assessments of impacts on the marine environment will need to be considered when applying the Waste Assessment Framework and a precautionary approach must be taken to address these uncertainties. The Waste Assessment Framework should be applied with a view that acceptance of sea dumping under certain instances does not remove the obligation to make further attempts to reduce the necessity for dumping. It should not be viewed as a tool for the reconsideration of dumping of waste and other matter in contravention of the London Convention 1972 or resolutions adopted thereunder.

1 Introduction

1.1 This document presents an approach to the implementation of the London Convention 1972 that is designed to improve the effectiveness of the Convention within the broader context of good waste management. The approach is considered applicable to all point sources of marine pollution and is founded on the principle that pollution of the sea and other sectors of the environment will be prevented only by reducing the quantity and variety of waste produced. Furthermore, it recognizes that avoidance of pollution demands rigorous controls over the emission and dispersion of contaminating substances and the use of scientifically-based procedures for selecting appropriate methods of waste disposal.

1.2 In applying the Waste Assessment Framework (WAF) and other pollution prevention strategies it is important that national authorities adopt a precautionary approach to the introduction of substances into the environment and actively pursue measures that will reduce contamination where there is reason to suspect that harmful effects may occur, even though stringent proof of a cause-effect relation may be lacking. Contracting Parties should therefore recognize that properly conducted assessments of dumping activities do not, in themselves, guarantee adequate protection of the marine environment from the adverse effects of wastes.

1.3 The Waste Assessment Framework, which is intended for use by national authorities responsible for regulating waste disposal at sea, has two main features. Firstly, it places new emphasis on progressively reducing the need to use the oceans for waste disposal. Secondly, it incorporates a schematic representation of the relationships between Annexes I, II and III of the Convention which should assist national authorities in evaluating applications to dispose of wastes at sea.

1.4 It will be self-evident that this regulatory mechanism, introduced within the framework of the London Convention 1972, does not provide a justification for using the oceans for purposes of waste disposal. It does, however, provide a set of technical protocols for evaluating the wastes and associated circumstances for which this practice might be considered. In this connection, States which are not Contracting Parties to LC 1972 will also be encouraged to employ the Waste Assessment Framework as an effective means for controlling and reducing disposal at sea.

1.5 The Waste Assessment Framework was devised in the context of the current provisions of LC 1972 (i.e. as of November 1992) and is without prejudice to future decisions of the Consultative Meeting. Should future decisions among the Contracting Parties change, either the Convention, its jurisdiction, or its mode of application, it will be necessary to re-evaluate the Waste Assessment Framework to ensure that it is consistent with these new provisions.

2 Background

2.1 This approach to evaluating wastes results from a proposal of the Scientific Group, and endorsed by the Tenth Consultative Meeting (resolution LDC.27(10)), that an ad hoc Group of Experts should explore possibilities to resolve outstanding difficulties with the interpretation and application of the Convention. The main areas of attention of the Group were the operational procedures of the Convention, in particular the classification and assessment

of wastes in accordance with Annexes I, II and III. The major requirements were to improve the scientific basis for classification and assessment, to provide an interpretation of the Annexes and associated "key" terms that would facilitate more uniform regulation of waste disposal at sea, and to develop procedures that would better integrate this practice with other fields of waste management. It was considered that such measures were necessary to improve public confidence in the ability of the Convention to meet its responsibilities and objectives.

2.2 The historical developments and discussions leading to the present document are recorded in detail in the following reports: LDC/SG 11/4, LDC/SG 11/13 (section 4), LDC/SG 12/2, LDC/SG 12/13 (section 2), LDC/SG 13/2, LDC/SG 13/14 (section 2), LDC/SG 15/2, LDC/SG 15/17 (section 2 and annex 2), LDC.2/Circ.266, LDC 13/3/5, LDC 13/15 (section 3), LDC/SG 14/12 (section 2) and LDC 14/16 (section 3).

3 Content and Implications of the Waste Assessment Framework - a Technical Summary

3.1 The information base used to construct the Waste Assessment Framework, and which will be needed to apply it, is contained in the following documents:

- Articles and Annexes of the Convention;
- Guidelines for the Application of the Annexes to the Disposal of Dredged Material (resolution LDC.23(10));
- Guidelines for the Implementation of Paragraphs 8 and 9 of Annex I to the London Dumping Convention (resolution LDC.24(10));
- Guidelines for Allocation of Substances to the Annexes of the London Dumping Convention (resolution LDC.31(11));
- Guidelines for the Implementation and Uniform Interpretation of 99nex III (resolution LDC.32(11));
- Guidance on monitoring (LDC/SG 9/13, paragraph 6.11 and resolution LDC.36(12));
- Guidance on Incineration at Sea (LDC 12/7); and
- Application of a Precautionary Approach in Environmental Protection within the Framework of the London Dumping Convention (resolution LDC.44(14)).

3.2 The Waste Assessment Framework is founded upon Annex III considerations and incorporates the consideration of Annexes I and II within its structure. These considerations are fundamental to the assessment of any application to dispose of waste at sea and constitute the principle basis for deciding whether a specified waste should be permitted for sea disposal.

3.3 Consideration of the practical availability of alternatives to disposal at sea (Annex III (C)(4)) has been placed near the top of the Framework. Subsequent steps are illustrated in the Framework which also identify other relevant considerations and guidance previously adopted by the Consultative Meeting, or included within this document.

3.4 It should be understood that the Waste Assessment Framework outlined by the schematic diagram shown in Figure 1 is not a "decision tree". It is a sequence of steps and is iterative. While it is implicit that a systematic approach to conducting assessments is advisable, the primary purpose of the schematic is to show the most important relationships among the various considerations of Annex III. In practice, the schematic should be applied in an iterative manner (i.e. repetitive passes through the Framework, as necessary) ensuring that all the steps in the Framework receive consideration before a decision is made to issue a permit. A full description of the process is given in section 5 below.

3.5 A significant element of the Waste Assessment Framework is its approach to the interpretation of Annexes I and II. They are represented in the schematic by a "Prohibition List" and an "Action List". These lists will contain, as a minimum, all substances and wastes currently specified in Annexes I and II. An important requirement of the Framework is that the lists should be completed by Contracting Parties individually. The Prohibition List will contain only those critical wastes that can be described in unambiguous terms and for which disposal at sea is absolutely prohibited by the Convention or by national regulations. All remaining substances and wastes covered by Annexes I and II will be assessed either by reference to concentration limits, biological responses, environmental quality standards or other reference values; or by means of detailed testing and/or rigorous hazard assessments specifically designed for the wastes and dumpsites concerned.

3.6 The application of the Waste Assessment Framework requires no changes to the existing Annexes to the Convention. Experience gained in the application of the Framework will indicate whether or not revision of the Annexes would improve implementation of the Convention.

3.7 It is recommended that, when the Waste Assessment Framework is implemented by each Contracting Party, there be opportunities included for public review and participation before a permit is issued.

4 Use of the Waste Assessment Framework

4.1 In summary, the Waste Assessment Framework:

- .1 constitutes a framework for use by regulatory agencies in assessing the suitability of wastes for disposal at sea. Depending on the type and characteristics of the waste under evaluation, the Framework or parts thereof may be applied in an iterative manner with varying levels of sophistication in the requirements; and
- .2 illustrates the relationship between the operational procedures of the London Convention 1972 and contains the following elements (see figure 1):
 - .1 prohibition list (Box 1);
 - .2 waste prevention audit (Box 2);
 - .3 consideration of waste management options (Box 3);
 - .4 waste characterization process, including the action list (Boxes 4, 5 and 6);

- .5 dumpsite selection (Box 7);
- .6 evaluation of potential impacts (Boxes 8, 9 and 10);
- .7 monitoring design (Boxes 11 and 13); and
- .8 permit issuance, including special conditions (Box 12).

4.2 While the schematic shown in Figure 1 is not designed as a conventional "decision tree", it nevertheless provides a clear indication of the stages in the Framework where important decisions should be made. In general, national authorities would apply the schematic in an iterative manner (i.e. repetitive passes through the Framework, as necessary) ensuring that all the steps in the Framework receive consideration before a decision is made to issue a permit. The final decision on the acceptability of a waste would seldom be based on a single run through the Framework.

4.3 Annotations to the boxes shown in the schematic are contained in section 5 below and are referenced by the relevant box numbers. The annotations provide guidance for application of the Waste Assessment Framework and should be used in conjunction with those Guidelines of the London Convention 1972 to which they refer.

4.4 As specified in the annotations to Box 1 (Prohibition List) and Box 6 (Action List), national authorities will need to develop appropriate entries for the Prohibition List and Action List before the Framework becomes operational. Priority should be given to the wastes and substances listed in Annexes I and II to the Convention. Additional materials of national relevance or concern may subsequently be added to the lists at the discretion of the national authority.

5 Annotations to the schematic diagram for the Waste Assessment Framework (Figure 1)

5.1 Wastes for which sea disposal is prohibited (Box 1)

5.1.1 Box 1 of the Waste Assessment Framework will contain wastes and other matter that are prohibited from dumping at sea. The Prohibition List is a list of wastes and other matter which is prohibited from disposal at sea, reflecting the application of sound waste management principles as well as a precautionary approach. Well-defined wastes with broadly recognized environmental risk potential and for which universally preferable disposal alternatives are available, should not be dumped at sea. Prohibition should be absolute, and the resulting list should be at least as stringent as the specifications of the present Annex I to the London Convention 1972. The list should include:

- .1 wastes and other matter which are, for environmental, social or political reasons, unacceptable for disposal at sea (e.g. materials in whatever form produced for chemical and biological warfare; high-level radioactive waste; organohalogen compounds in waste streams arising from any source which yields these compounds as an integral part of the production process; and crude oil and its wastes, refined petroleum products, petroleum distillate residues, and any mixtures containing any of these);

- .2 persistent plastics and other persistent synthetic materials which may float or may remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea;
- .3 wastes containing substances satisfying established criteria for the allocation of substances to Annex I to the Convention;
- .4 wastes which, on the basis of experience with the waste characterization process (boxes 4, 5 and 6), are rejected on a routine basis; and
- .5 wastes where there is reason to assume that long-term harmful consequences of disposal at sea could occur.

5.1.2 Existing Annex I substances not specified in the Prohibition List, i.e. substances listed in paragraphs 1 to 5 of Annex I (organohalogens, mercury and cadmium and their compounds, plastics and crude oil) contained in wastes as trace contaminants, would be subject to rejection in accordance with the provisions of the Action List (upper level).

5.1.3 When wastes are prohibited from disposal at sea, Contracting Parties are encouraged to ensure that waste prevention audits are carried out and waste prevention strategies implemented to ensure, *inter alia*, that potential indirect sources of contaminants to the marine environment are identified and removed.

5.2 Consider alternatives to disposal at sea (Boxes 2 and 3)

5.2.1 Consideration of alternatives to the disposal of wastes at sea is a two-step process. The first step is a waste prevention audit and the next step involves comparison of waste management options.

5.2.2 Technical assistance and information exchange are essential elements in the assessment of alternatives to disposal at sea, particularly for those countries lacking the necessary capacities. The important role of the Convention in this respect is stated in Article IX(c), and the need for an effective technical assistance and information exchange mechanism is widely recognized. Requests for information or technical assistance can be forwarded to the Office for the London Convention 1972.

Waste Prevention Audit (Box 2)

5.2.3 The initial stage in assessing alternatives to disposal at sea of industrial wastes, including agricultural and fishery or other wastes, should encompass a requirement for any new applicant or existing permit holder to carry out an appropriate waste prevention audit.

5.2.4 Applications for permits should be refused and existing permits should be reviewed if any of the following factors have not been adequately addressed:

- .1 types, amounts, and relative hazard of wastes generated;
- .2 details of the production process and the sources of wastes within that process; and

.3 feasibility of each of the following techniques of waste prevention:

- .3.1 product reformulation;
- .3.2 clean production technologies;
- .3.3 process modification;
- .3.4 input substitution;
- .3.5 on-site, closed-loop recycling; and
- .3.6 good housekeeping.

5.2.5 Detailed technical assistance on particular techniques is available from a wide range of sources. A list of contacts and addresses for such sources can be obtained from the Office for the London Convention 1972.

5.2.6 In general terms, if the required audit reveals that opportunities exist for waste prevention at source, an applicant should be 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 should be subject to compliance with this requirement.

5.2.7 In the case of new projects, no initial permit should be granted until a waste prevention audit has been carried out and all feasible measures for waste prevention identified in the audit have been implemented.

5.2.8 For wastes such as dredged material and sewage sludge, the goal of waste management should be to identify and remove sources of contaminants to these wastes. This should be achieved through implementation of waste prevention strategies and requires collaboration between the relevant national agencies involved with the control of point and non-point sources of pollution.

Consider waste management options (Box 3)

5.2.9 Applications to dispose of wastes at sea should demonstrate that consideration has been given to waste prevention at source (including the techniques outlined under Box 2) and to each element in a hierarchy of waste management options. In general, the following hierarchy implies an order of increasing environmental impact:

- .1 off-site recycling;
- .2 re-use;
- .3 destruction of hazardous constituents;
- .4 treatment to reduce or remove the hazard; and
- .5 disposal on land, into air and in water.

5.2.10 Generally speaking, a permit to dispose of wastes at sea should be refused if opportunities exist to recycle, re-use or treat the waste without undue risk to human health or disproportionate costs. Productive uses of clean dredged material and sewage sludge should be found whenever possible. The practical availability of other means of disposal should be considered in the light of a comparative risk assessment involving both sea disposal and the

alternatives. In this connection, Annex III(C)(4) and Guidelines for the Implementation and Uniform Interpretation of Annex III (resolution LDC.32(11)) should be taken into account.

5.2.11 Contaminated dredged materials are a special case which can be controlled effectively only by the control of all discharges to water from which dredged material is taken (see Box 2 and paragraphs 5.2.3 to 5.2.8 above). Until this objective is met the problems of contaminated dredged material may be addressed by using disposal management techniques (resolution LDC.23(10)). For dredged material that exceeds the upper action levels for Annex I and Annex II materials (Box 6), disposal at sea may be acceptable in certain limited cases using disposal management techniques or actions and processes through which the impact of Annex I or Annex II substances contained in the dredged material may be reduced to, or controlled at, a level that does not constitute a hazard to human health, harm to living resources, damage amenities or interfere with legitimate uses of the sea. Disposal management techniques which may "rapidly render harmless" Annex I substances and constitute "special care techniques" with regard to Annex II substances are regarded as interim procedures until the ultimate goal of control of source of contamination is met.

5.3 Waste characterization process (Boxes 4, 5 and 6)

5.3.1 Boxes 4, 5 and 6 in the Waste Assessment Framework constitute a process that can be described as waste characterization. A detailed description and characterization of the waste forms an essential precondition for both the consideration of alternatives in Boxes 2 and 3 and the actions taken in Box 6 (the "Action List"). In this context, Boxes 4, 5 and 6, with the addition of Box 8, form a functional unit in the Framework that will provide for a decision as to whether a waste might or should not be dumped. Box 8, which considers the contribution of the waste to local and regional fluxes, also is important for the assessment at other levels of the Framework; this Box will be described separately.

5.3.2 In applying Boxes 4, 5 and 6 it is important to ascertain whether an adequate scientific basis exists on the characteristics and composition of the matter to be dumped and on the impacts on marine life and human health. If a waste is so poorly characterized that proper assessment cannot be made of its potential impacts in the environment, then that waste should not be dumped at sea.

5.3.3 Boxes 4 and 5 represent the collection of information on the physical, chemical and biological properties that are considered necessary for the assessment of the waste. Existing relevant technical guidance contained in Annex III to the Convention and its supporting documentation (resolution LDC.32(11)) can be used to complement Boxes 4 and 5 of the Framework. In addition, special guidance already exists for individual waste types or practices, i.e. dredged material (resolution LDC.23(10)) and incineration at sea (LDC 12/7).

Chemical/physical characteristics and biological properties (Boxes 4 and 5)

5.3.4 Guidelines for the Implementation and Uniform Interpretation of Annex III (resolution LDC.32(11)) contain detailed information on the

appropriate technical guidance required for Boxes 4 and 5 of the Framework. Examples of parameters to be measured under the provisions of Boxes 4 and 5 are:

- .1 origin, total amount and average composition;
- .2 form;
- .3 properties: physical, chemical, biochemical and biological;
- .4 toxicity;
- .5 persistence: physical, chemical and biological; and
- .6 accumulation and biotransformation in biological materials or sediments.

For detailed technical guidance, reference should be made to resolution LDC.23(10) on dredged material, resolution LDC.24(10) on implementation of paragraphs 8 and 9 of Annex I, resolution LDC.31(11) on allocation of substances to the Annexes and document LDC 12/7 on control of incineration at sea.

Action List (Box 6)

5.3.5 The Action List is a screening mechanism for comparing properties and constituents of waste material with a set of criteria that addresses substances, including those listed in Annexes I and II to the Convention, experience gained with the relevant categories of waste, and on published scientific research relating to the potential effects on human health or the marine environment. The action list also can be used as a trigger mechanism for further waste prevention considerations (Box 2), including, inter alia, the identification and reduction/elimination strategies for dredged material contaminants. Since the Action List constitutes a crucial part of the Waste Assessment Framework, the Scientific Group will continuously review all aspects of it to assist Contracting Parties with its application. In keeping with resolution LDC.44(14), when determining action levels, Contracting Parties should take into account that the quantity, diversity, and complexity of chemical compounds entering the marine environment make it difficult to determine the overall threat. Contracting Parties should be guided by a precautionary approach under which appropriate preventive measures are taken when there is reason to believe that dumping of wastes or other matter is likely to cause harm even when there is no conclusive evidence to prove a casual relationship between inputs and effects.

5.3.6 Two criteria might be defined in the Action List, an upper and lower level, giving three possible actions:

- .1 wastes which contain specified substances, or wastes which cause biological responses, in excess of the relevant upper levels (i.e. definitions of significant amounts or trace contaminants) would generally be considered unsuitable for disposal at sea;

- .2 wastes which contain specified substances, or which cause biological responses, below the relevant lower levels would generally be considered to be of little environmental concern for disposal at sea; and
- .3 wastes of intermediate quality would require more detailed assessment before their suitability for disposal at sea could be determined.

5.3.7 In exceptional instances, a single criterion for certain waste constituents may be appropriate, e.g. acceptable levels of sewage pathogens in water for human health protection.

5.3.8 For an individual waste category, it may be possible to define national action levels for practical application in the screening process for each of the relevant environmental topics of concern. The levels might be set on the basis of concentration limits, biological responses, environmental quality standards, flux considerations or other reference values.

Hypothetical examples

5.3.9 The following are hypothetical examples of criteria that might be used to develop upper and lower action levels for sewage sludge, fish processing wastes and dredged material. It should be recognized that the examples provided are based on waste types currently dumped. The examples are not comprehensive and are not intended to be prejudicial to decisions taken by the Consultative Meeting. Representative criteria have been selected to illustrate different possible types of action list entries.

.1 Sewage sludge:

- Environmental concerns: Accumulation of contaminants in marine organisms, adverse affects to human health, chronic effects due to long-term exposure, increased inputs of contaminants.
- Lower criterion: Sludge derived from purely domestic sources and with concentrations of Annex I and II metals not exceeding those in sewage sludge from small rural communities.
- Upper criterion: Toxicity response in standard test of [] and organisms exposed to sewage sludge in acceptable bioaccumulation tests should not increase their total body burden by []% for natural substances and []% for synthetic substances.

.2 Fish processing waste:

- Environmental concerns: Alteration of redox potential at the disposal site due to oxygen consumption.
- Lower criterion: []kg fish waste per day; not less than []% O₂ saturation; [] alteration of sediment E_h.

Upper criterion: []kg fish waste per day; not less than []% O₂ saturation; [] alteration of sediment E_h.

.3 Dredged material:

Environmental concerns: Impact of heavy metals and man-made substances on marine organisms and potential risks to human health.

Lower criterion: Taking into consideration local geology and geochemistry, the concentration of Annex I and Annex II metals should not exceed typical concentrations in natural, local, fine-grained sediments. For man-made substances, no detectable accumulation of specified compounds in acceptable bioaccumulation tests should be observed.

Upper criterion: Toxicity of the material should not exceed []% v/v and organisms exposed to the dredged material in acceptable bioaccumulation tests should not increase their total body burden by []% for natural substances and []% for synthetic substances.

5.4 Dumpsite selection (Box 7)

Site selection considerations

5.4.1 Proper selection of a disposal site at sea for the reception of waste is of paramount importance. Clearly, finding disposal sites that will minimize disturbances to the environment without producing undue economic burdens is a difficult problem faced by all authorities involved in the permitting process. Prior to selecting a potential dumpsite for detailed assessments described in paragraph 5.4.2 below, a zone should be determined in which dumpsites are economically and operationally feasible.

5.4.2 Guidance for procedures to be followed in dumpsite selection can be found in Annex III to the London Convention 1972 and in a report of the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP Reports and Studies No.16 - Scientific Criteria for the Selection of Waste Disposal Sites at Sea). Prior to selecting a dumpsite 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 field work should be undertaken to fill the gaps. Useful assistance in fulfilling the objectives of field studies can be found in the above referenced GESAMP report and the Guidelines for the Implementation and Uniform Interpretation of Annex III (resolution LDC.32(11)). Required information includes:

- .1 the nature of the sea-bed, including its topography, geochemical and geological characteristics, its biological composition and activity, and prior disposal activities affecting the area;

- .2 the physical nature of the water column, including temperature, depth, possible existence of a thermocline/pycnocline and how it varies in depth with season and weather conditions, tidal period and orientation of the tidal ellipse, mean direction and velocity of the surface and bottom drifts, velocities of storm-wave induced bottom currents, general wind and wave characteristics, and the average number and source of storm days per year, suspended matter; and
- .3 the chemical and biological nature of the water column, including pH, salinity, dissolved oxygen at surface and bottom, chemical and biochemical oxygen demand, nutrients and their various forms and primary productivity.

5.4.3 Some of the important amenities and other uses of the sea to be considered and whose geographical position must be stipulated prior to deciding upon the specific location of the dumpsite are:

- .1 the shoreline with its possible bathing beaches;
- .2 areas of natural beauty or significant cultural or historical importance;
- .3 areas of special scientific or biological importance, such as sanctuaries and areas of recruitment;
- .4 sport and commercial fishing areas;
- .5 finfish and shellfish spawning and nursery areas;
- .6 known migration routes of fish and mammals;
- .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.

5.4.4 For the purpose of habitat protection, disposal site selection should seek compatibility with the general properties of the material to be dumped.

Size of the dumpsite

5.4.5 Size of the dumpsite is an important consideration for the following reasons:

- .1 it should be large enough, unless it is an approved dispersion site, to have the bulk of the material remain either within the site limits or within a predicted area of impact after disposal;
- .2 it should be large enough to accommodate anticipated volumes of solid waste and/or for liquid wastes to be diluted to near background levels before or upon reaching site boundaries;

- .3 it should be large enough in relation to planned volumes for disposal so that it would serve its function for many years; and
- .4 it should not be so large that the act of carrying out monitoring investigations would require undue expenditure of time and money.

Site capacity

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

- .1 the anticipated loading rates per day, week or month;
- .2 whether or not it is a dispersive site; and
- .3 the allowable reduction in water depth over the site because of mounding of material.

5.5 Evaluate potential impacts (Boxes 8, 9 and 10)

Consider contribution to local and regional fluxes (Box 8)

5.5.1 An important consideration in determining the suitability of a waste for sea disposal at a specific site is the degree to which the disposal results in increased biological exposures of substances that can cause adverse effects.

5.5.2 The extent of adverse effects of a substance is a function of exposure to 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.

5.5.3 The presence of natural substances and the ubiquitous occurrence of environmental contaminants means that there will always be some pre-existing exposure of organisms to all substances contained in any waste that might be dumped at sea. Concerns about exposures to hazardous substances thus relate to incremental exposures as a consequence of dumping. This, in turn, can be translated back to the relative magnitude of the input fluxes of substances from sea dumping compared to existing input fluxes from other sources.

5.5.4 Accordingly, some consideration needs to be given to the relative magnitude of substance fluxes associated with sea disposal in the local and regional area surrounding the dumpsite. 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.

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

Optimize disposal techniques (Box 9)

Optimization in disposal

5.5.6 Intrinsic to all regulations dealing with waste disposal at sea are scientifically derived limits on the environmental changes that are permitted to occur. Although these limits set the highest legal level of exposure of critical constituents of the environment to wastes, regulators should strive at all times to enforce procedures that will result in environmental changes as far below the limits as practicable, taking into account technological capabilities as well as economic, social, and political concerns. This principle of optimization should be applied to the disposal of all wastes, and to all stages of the process from the selection of the disposal site to the actual methods of disposal, such that environmental disturbance and detriment are minimized and benefits maximized.

Special care

5.5.7 To achieve this goal, special care measures should be exercised in all processes involved in the handling of all types of wastes. Special care can begin with deciding upon the specific location of the dumpsite and perhaps end with developing and implementing carefully designed monitoring studies to ensure that the effects of disposal have not exceeded those envisaged in the predictive hypotheses guiding the monitoring process.

5.5.8 Special care measures may also involve temporal characteristics whereby critical times of the year (e.g. for marine life) can be established when disposal at sea should not proceed. This consideration leaves "windows" or "periods" when it is expected that disposal 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 biota are migrating from one part of the ecosystem to another (e.g. from estuary to open sea or vice versa) and growing and breeding periods;
- .2 periods when marine organisms are hibernating on or buried in the sediments; and
- .3 periods when particularly sensitive and possibly endangered species are exposed.

Disposal methods

5.5.9 In all disposal options some contaminants will escape by one or more routes. Contaminant mobility is dependent upon several factors, among which are:

- .1 form of contaminant;
- .2 solvent;
- .3 type of matrix;

- .4 physical state of the system, e.g. temperature, waterflow, suspended matter;
- .5 physico-chemical state of the system;
- .6 length of diffusion and advection pathways; and
- .7 biological activities, e.g. bioturbation.

5.5.10 In considering all of the above factors for dredged material, there are several that lend themselves to management. As an example, it is possible to increase the length of the diffusion and advection pathways by capping, i.e. covering the disposal mound with material of a known clean layer of sand, silt or clay. Capping has been carried out successfully in water depths up to approximately 40 metres. Capping has also been used to reclaim estuarine sediments in areas that have been contaminated with sewage residues and are unlikely to be dredged.

5.5.11 Capping can also be done over dredged material that has been disposed of at sea into natural depressions or man-made pits. In some places such pits have been created by sand mining. Disposal has been carried out in pits directly adjacent to wharves, thus reducing handling and transportation costs substantially. In relatively shallow water it is possible to reduce sediment losses by discharging sediments to the sea floor through a pipe equipped with a diffuser that spreads material near the bottom with minimal water column interaction.

Impact assessment: derive hypotheses (Box 10)

5.5.12 At this stage in the process, all relevant information from the preceding steps is used to assess the nature and extent of impacts on the marine environment resulting from the planned disposal operation. More specifically, the assessment should integrate information on waste characteristics (Boxes, 4, 5 and 6), conditions at the proposed disposal site(s) (Box 7), fluxes (Box 8) and disposal techniques (Box 9). If this assessment reveals that adequate information is not available to determine the likely environmental effects of the proposed dumping then issuance of a permit should not be considered. Uncertainties in relation to assessment of impacts on the marine environment require a precautionary approach when the overall assessment is to be made. As far as possible, waste management options causing dispersion and dilution of wastes into the environment are to be avoided and preference should be given to techniques that prevent the input of the wastes into the environment.

5.5.13 As part of the impact assessment process, it may be appropriate to prepare additional impact assessments of alternative disposal options (see resolution LDC.32(11) on guidelines for the implementation and uniform interpretation of Annex III). An analysis of the other disposal options, including land disposal, should be considered in the light of a comparative assessment of the following concerns: human health risks, environmental costs, hazards (including accidents), economics and exclusion of future uses. If the interpretation of the comparative impact assessment shows the ocean alternative to be less preferable, a licence for sea disposal should not be given.

5.5.14 The final stage of each impact assessment explicitly requires a concluding statement in support of a decision to issue a permit. This should aim to provide a concise, scientific analysis of the effects on humans, living resources and other legitimate uses of the sea. It should clearly indicate the temporal and spatial scales of these effects. Impact hypotheses are derived from this analysis and also constitute the logical foundation for any subsequent monitoring (Boxes 11 and 13).

5.5.15 In constructing an impact hypothesis, particular attention should be given to, but not limited to, potential impacts on: amenities (e.g. presence of floatables), sensitive areas (e.g. spawning, nursery or feeding areas), habitat (e.g. biological, chemical and physical modification), migratory patterns and marketability of resources (e.g. tainting). For a more detailed discussion see also resolution LDC.23(10) and resolution LDC.32(11).

5.5.16 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 such as subsistence fisheries.

5.5.17 Even the least complex and most innocuous wastes may have a variety of physical, chemical and biological effects. Impact hypotheses cannot, and should not, attempt to reflect them all. It must be recognized, however, 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 to review the adequacy of management measures applied to the disposal operation and the disposal site. It is important to identify the sources and consequences of uncertainty.

5.5.18 The preliminary evaluation should be as comprehensive as possible. The primary areas of potential impact should be those identified during the dumpsite selection process (Box 7) and are those considered to have the most serious consequences for 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 priorities in this regard.

5.5.19 The expected consequences of disposal (targets) 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 then be described. The target and the effect together should be quantified in sufficient detail so that there would be no doubt as to the parameters to be measured during post-operational monitoring. In the latter context, it would be essential to determine "where" and "when" the impacts can be expected.

5.5.20 Emphasis should be placed on biological effects such as habitat modification as well as physical or chemical change. However, if the potential effect is due to persistent chemical substances, the following factors should be addressed:

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

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

5.5.21 In the case of repeat or multiple disposals, impact hypotheses should take into account the cumulative effects of the operation. It will also be important to consider the possible interactions with other waste disposal practices in the area, both existing or planned.

5.5.22 Ultimately, impact hypotheses should provide the basis and a practical approach for field or compliance monitoring. Where monitoring is required, the targets, 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. Monitoring is addressed further in the description of Boxes 11 and 13.

5.6 Identify compliance monitoring priorities (Box 11) and monitoring (Box 13)

5.6.1 Monitoring is an integral part of managing waste disposal activities in the marine environment. Monitoring is used to verify that permit conditions are met and that the assumptions made during the permit review and site selection process were correct and sufficient to protect the environment. Monitoring activities provide an important feedback to the assessment or permit review phase whereby permit terms and conditions can be modified, as necessary, to ensure that marine life and human health are protected.

5.6.2 Monitoring for the purposes of the Convention are those measurements performed to demonstrate that dumping is in compliance with the overall intent of the Convention and the requirements of the Annexes. It is essential that the monitoring programme should have clearly defined objectives. Measurements to be made must be designed to be usable in meeting these objectives. The derivation of impact hypotheses (Box 10) establishes the framework for a monitoring programme. When formulating a monitoring programme, the following important questions must be answered:

- .1 what are the objectives of the monitoring programme?
- .2 what testable hypotheses are identified to satisfy the objectives?
- .3 what measurements can be selected for the purposes of testing the hypotheses?
- .4 what performance requirements (e.g. precision, accuracy, limit of detection, replication) need to be imposed on the measurements in order to satisfy the testing of the hypotheses?
- .5 in what compartments or locations and at what frequencies should measurements be made?
- .6 have steps been taken to assure the quality of the data and are there statistical procedures to test the reliability of any conclusions concerning the changes or effects that have occurred?
- .7 how should the data be managed and interpreted, both in relation to the testing of hypotheses and the satisfaction of objectives?

5.6.3 The monitoring results should be reviewed at regular intervals in relation to the objectives to determine whether the monitoring then should be continued, revised or even terminated, as appropriate.

5.6.4 A useful tool in evaluating possible effects of sea disposal is the testing of "null" hypotheses. Null hypotheses generally state that:

Dumping activity X will not cause a particular component of the ocean ecosystem (e.g. body burdens of PCB in fish tissues, coliform concentration, turbidity, species diversity, population) to change by a specified amount at a specific location or in a specific area.

These hypotheses must be tested with a stated level of confidence. Target parameters should be selected from a thorough review of Boxes 4 to 9 and limited to those deemed significant to a certain impact, location or waste material.

5.6.5 Once null hypotheses are selected, a structured monitoring approach (e.g. tiered monitoring) should address the hypotheses in a priority sequence. As an example, this may involve the collection of data to determine near-field effects followed by far-field and long-term effects.

5.6.6 Parameters chosen for monitoring should provide a direct link between null hypotheses and the need for management information. Parameters selected for monitoring generally have the following characteristics:

- .1 socially, commercially, and environmentally relevant;
- .2 sensitive to the impact;
- .3 relatively constant in the unaffected, control situation; and
- .4 cost-effective to monitor.

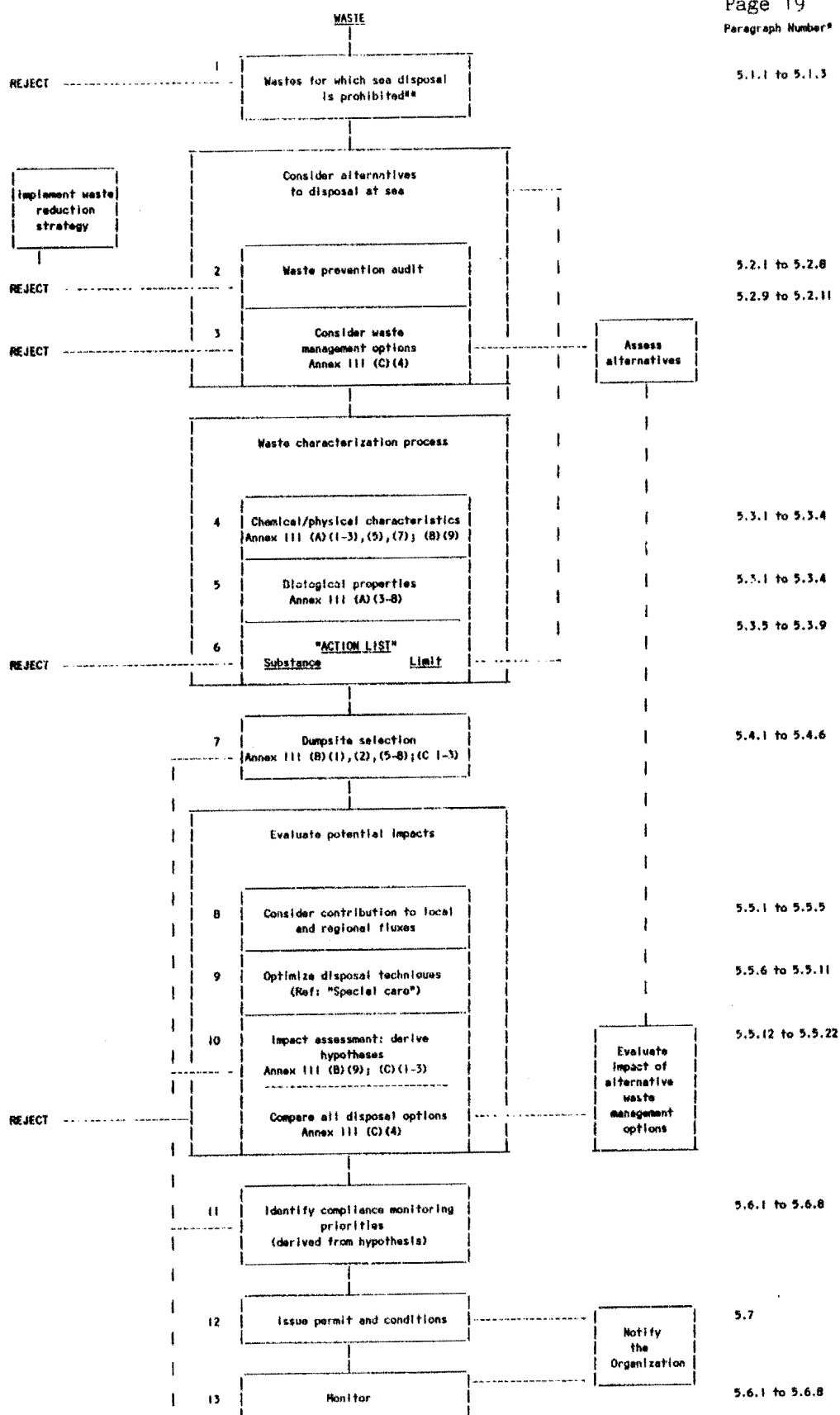
5.6.7 Monitoring the effects of disposal at sea on living marine resources is difficult because the relevant parameters fluctuate on many temporal and spatial scales. Spatial variability can range from centimetres to thousands of kilometres. Temporal variability is caused by daily, seasonal, and longer-term climatic cycles. The natural variability in parameters should be considered in developing an effective monitoring programme, especially since it may exceed or obscure the response from the disposal operation.

5.6.8 Once a monitoring programme is underway, results should be used, if necessary, to modify the sampling and analysis plan. Results should also provide feedback to the permitting and dumpsite selection. Decisions might include continuing, modifying or revoking permits; modifying the disposal activity and maintaining or changing the dumpsite or withdrawing the dumpsite from further use.

5.7 Issue permit and conditions (Box 12)

The permit should be issued once all impact analyses and monitoring plans are completed. The permit should include information such as the specific types and sources of materials, dumpsite locations, special care and disposal technologies, and monitoring requirements. Permits should be reviewed at regular intervals.

FIGURE 1



* Paragraph number refers section 5 of annex 2 - Annotations of the schematic diagram for the Waste Assessment Framework

** Taking into account resolution LDC.43(13) on phasing out sea disposal of industrial waste

ANNEX 5

RESOLUTION LC.47(15)

STATUS OF INCINERATION OF NOXIOUS LIQUID WASTES AT SEA

THE FIFTEENTH CONSULTATIVE MEETING,

RECALLING Article I of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter which states that Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment,

RECALLING ALSO resolutions LDC.35(11) and LDC.39(13) on the status of incineration of noxious liquid wastes at sea,

RECALLING FURTHER UNCED's encouragement to the Contracting Parties to take appropriate steps to stop ocean dumping and incineration of hazardous substances,

REAFFIRMING that incineration at sea is an interim method of waste disposal,

RECOGNIZING that Contracting Parties should give priority to no waste and low waste technology within the hierarchy of waste management,

NOTING that the incineration at sea of noxious liquid wastes by Contracting Parties ceased at the beginning of 1991 and that all incineration vessels were decommissioned,

NOTING ALSO that no new information related to this issue was submitted to the fifteenth meeting of the Scientific Group and that the Scientific Group therefore was not in a position to re-evaluate the scientific and technical aspects of incineration at sea as requested by resolution LDC.39(13),

NOTING FURTHER that information on existing environmentally sound land-based options is available from, inter alia, the Oslo Commission,

AWARE that some Contracting Parties might face difficulties in finding methods for environmentally sound management of their industrial wastes and that the Global Waste Survey should assist them in this regard,

NOTING the conclusion at the fifteenth meeting of the Scientific Group that no new information on the incineration of noxious liquid wastes at sea was expected to be forthcoming,

AGREES:

- 1 to prohibit incineration at sea of noxious liquid wastes from 31 December 1992;
- 2 that Contracting Parties take upon themselves to consider favourably requests for technical or scientific assistance, including transfer of relevant publicly available information, based on the outcome of the Global Waste Survey.

ANNEX 6

LIST OF SUBSTANTIVE ITEMS AGREED FOR INCLUSION IN THE
AGENDA OF THE SIXTEENTH CONSULTATIVE MEETING

- 1 Consideration of the report of the Scientific Group
- 2 Amendments to the Convention and its Annexes
- 3 Matters related to the disposal of radioactive wastes at sea
- 4 Sea disposal of industrial wastes
- 5 Long-term strategy for the Convention
- 6 Technical assistance, co-operation and development
- 7 Information exchange on waste prevention and clean production methods,
waste production and disposal

ANNEX 7

FUTURE WORK PROGRAMME OF THE SCIENTIFIC GROUP
(Sixteenth, seventeenth and eighteenth meetings)

		<u>MEETINGS</u>			<u>TARGET COMPLETION DATE</u>
		<u>1993 16th</u>	<u>1994 17th</u>	<u>1995 18th</u>	
1	Matters relating to the amendment of the Convention	XX			1993
2	Implementation of the Waste Assessment Framework: Action List	X	X	X	Continuous
3	Global Waste Survey	XX	XX	X	Continuous
4	Monitoring and disposal activities at sea	X	X	X	Continuous
5	Waste Management Issues: comparative assessments; mitigation of the impact of dumping; source reduction; recycling and cleaner technology (case studies), guidelines, manuals, bibliographies, PRP submissions	X	X	X	Continuous
6	Review and assessment of the dredged material guidelines		XX	XX	1995
7	Management and disposal of municipal sewage	X	X	X	Continuous
8	Co-operation and information exchange	X	X	X	Continuous