UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 1 1991

OFFICE OF WATER

Members of the Public Advisory Committee
on Ocean Dumping

Dear Committee Member:

The Subcommittee on Ocean Dumping of the Shipping Coordinating Committee will hold an open meeting on October 24, 1990. The meeting will convene at 10:00 A.M. in the Conference Room of the Office of Wetlands, Oceans, and Watersheds, 8th Floor, Fairchild Building, 499 South Capitol Street, S.W., Washington, D.C. 20003.

The meeting will review the agenda for the Fourteenth Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LDC 14, November 25-29, 1991), seek public input to developing U.S. positions, and review the outcome of the Scientific Group on Dumping (SGD 14, April 2-5, 1991). In addition, there will be a presentation on the outcome of the Ad Hoc Group of Legal Experts on Dumping (LG-5, July 8-12, 1991).

Enclosed are the Provisional Agenda for LDC 14 and reports for the SGD 14 and LG 5 meetings.

Sincerely yours,

Craig Vogt

Craig Vogt, Deputy Director
Oceans and Coastal Protection
Division

Enclosures

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ADD: Joe Youngblood 1 1

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INTERNATIONAL MARITIME
ORGANIZATION

IMO

LDC 14/1
20 May 1991
Original: English

FOURTEENTH CONSULTATIVE MEETING OF
CONTRACTING PARTIES TO THE
CONVENTION ON THE PREVENTION
OF MARINE POLLUTION BY DUMPING
OF WASTES AND OTHER MATTER
25-29 November 1991
Agenda item 1

PROVISIONAL AGENDA

for the Fourteenth Consultative Meeting of Contracting Parties
to be held at IMO Headquarters, 4 Albert Embankment,
London SE1, from Monday, 25 November at 10 a.m.
to Friday, 29 November 1991

Opening of the Meeting

1 Adoption of the Agenda

2 Status of the London Dumping Convention

3 Consideration of the report of the Scientific Group on Dumping

4 The application of a precautionary approach to environmental protection within the framework of the Convention

5 Consideration of the report of the ad hoc Group of Legal Experts on Dumping

6 Transboundary movement of hazardous wastes

7 Long-term strategy for the Convention

8 Matters related to the incineration of wastes at sea

9 Sea disposal of industrial wastes

10 Waste production and disposal technologies: information exchange and technical co-operation

11 Matters related to the disposal of radioactive wastes

12 Relations with other organizations

13 Future work programme and date of next session

14 Any other business

15 Election of Chairman and Vice-Chairmen

16 Consideration and adoption of the report

INTERNATIONAL MARITIME ORGANIZATION

IMO

LDC 14/3/1
26 July 1991
Original: ENGLISH

FOURTEENTH CONSULTATIVE MEETING OF CONTRACTING PARTIES TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER
25 - 29 November 1991
Agenda item 3

CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUP ON DUMPING

Management and Disposal of Sewage Sludge

Note by the Secretariat

1 The Scientific Group on Dumping, at its fourteenth meeting, noting that sewage management issues could be an important item on the Group's agenda for the next few years, prepared a statement on management and disposal of municipal sewage (LDC/SG 14/12, paragraph 3.18). The statement is annexed hereto. The statement sets forth a proposed global evaluation of sewage management issues, identifies the major technical and scientific issues to be addressed and the supporting documentation required.

Background

2 The Scientific Group on Dumping felt that any attempt to evaluate the future use of sea disposal for sewage sludges would require an in-depth analysis on a global basis of sewage generation and associated treatment and disposal options. The recent report on "The State of the Marine Environment" (GESAMP 1990) highlighted the problems in coastal environments due to inadequate management of municipal sewage in heavily populated areas throughout the world. The Group believed that there is a need to address this issue at the international level and the Scientific Group might provide a suitable forum to conduct a broad evaluation that would help to identify the actions required to alleviate coastal pollution by sewage as well as the role of sea disposal in this regard.

3 The Scientific Group noted that such an evaluation by the Scientific Group would require endorsement by the Consultative Meeting, the compilation of a comprehensive body of information and the full participation of developing countries. It was acknowledged that several UN agencies had been addressing aspects of sewage management for some years and that their

co-operation in the proposed evaluation would be essential. Alternatively, the Consultative Meeting could decide to request one of these agencies to undertake a study on its behalf; in this case the Scientific Group could evaluate the results of the study to assess the implications for the work of the Convention.

Action by the Consultative Meeting

4 The Consultative Meeting is invited to review the attached statement and endorse the proposed evaluation.

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ANNEX

MANAGEMENT AND DISPOSAL OF MUNICIPAL SEWAGE

Sewage is continuously generated in amounts directly related to the size and socio-economic conditions of the human population. It consists of a rich organic matrix which, although potentially useful as a nutrient source, may be harmful to the environment and human health particularly in the absence of management approaches that provide for suitable treatment and disposal. Sewage management is therefore a worldwide problem. While there exists a range of treatment and disposal technologies, none of these are universally applicable. Many of the options available involve part or all of the sewage entering the marine environment. Where the degree of treatment or location of the input has not been adequately assessed or controlled, considerable damage may be caused to coastal environments, amenities and resources. The recent report on "The State of the Marine Environment" (GESAMP 1990) has emphasized that degradation of coastal environments resulting from mismanagement of municipal sewage is now a major concern in many of the more populated regions of the world.

The London Dumping Convention regulates the use of one of the many techniques for disposal of sewage - namely, the dumping of sewage sludge at sea. Clearly the role of this technique can be properly assessed only in the context of an overall assessment of sewage management, its needs and possibilities, on a worldwide basis.

The Thirteenth Consultative Meeting agreed to increase emphasis on matters dealing with waste management issues, clean technology, case studies and source reduction applicable to wastes and waste categories disposed of at sea. It was decided to place special emphasis on the beneficial uses and alternative options for the disposal of sewage sludge during the fourteenth meeting of the Scientific Group on Dumping. Four papers on this topic were submitted in response to a request to Contracting Parties to provide relevant information, particularly in relation to reduction of contaminants at source and guidelines for identifying and implementing alternatives to sea disposal.

Having considered these documents, the conclusion is inescapable that a variety of alternative options for the use or disposal of sewage sludge exists. The point at issue is the comparative advantages/disadvantages of these options in environmental, technical, social and political terms. Clearly, options that offer net benefits from the utilization of sewage and sewage sludge are preferred over those that cause net adverse effects. The properties of sewage that offer potential benefits are primarily nutrient and carbon content; properties that pose hazards are microbiological, nutrient, trace metal and synthetic chemical content.

In designing its study the Scientific Group identified the necessity for comprehensive information from Contracting Parties, particularly of developing countries, and relevant organizations, on matters related to sewage management including the following:

- existing and future trends in the collection and treatment of sewage;
- the use of municipal waste water collection and treatment systems for combined or separate management of effluent from domestic (including urban run-off) and industrial sources;
- the availability of pretreatment programmes and techniques for reduction of toxic compounds from industrial discharges prior to discharge into municipal collection systems;
- consideration of disposal requirements for liquid and solid phases arising from sludge production and disposal, such as treated effluent as well as dewatering and incineration residues;
- the availability and sustainability of productive uses of sewage sludge such as land-spreading, composting, etc.;
- the implications of population density, land-use, variation in climate and socio-economic factors for the selection of sewage management technologies at local levels;
- the relative environmental implications of land-based and sea-based disposal methods taking into account the relative contributions to nutrient fluxes and the carbon cycle;
- the full economic implications of alternatives including capital investment, energy use/generation, transport, personnel, space/resource utilization and management, including monitoring costs;
- the composition and characteristics (e.g. toxic substances, pathogens) of sewage sludge as they relate to the availability of certain disposal techniques, such as land spreading; and
- the nature, environmental and human health implications of contaminants of non-domestic origin contained in sewage.

The role of sea disposal can be properly assessed only when comprehensive information has been compiled and subjected to detailed analysis. This will require the collaboration of relevant international organizations and, in particular, the full participation of all Contracting Parties to the Convention. The experiences and information available from developing countries is essential for this evaluation.

INTERNATIONAL MARITIME
ORGANIZATION

IMO

LDC/SG 14/2
7 March 1991
ENGLISH ONLY

SCIENTIFIC GROUP ON
DUMPING - 14th Meeting
2-5 April 1991
Agenda items 2 and 7

DRAFT NEW ASSESSMENT PROCEDURES: REVIEW OF COMMENTS

Matters relating to the disposal at sea of dredged material

Submitted by the International Association of Ports and Harbors (IAPH)

I Introduction

1.1 The International Association of Ports and Harbors (IAPH) appreciates the invitation to attend the Fourteenth Meeting of the Scientific Group on Dumping to participate in the discussion of agenda items that may effect the ocean disposal of dredged material. The agenda includes a number of subjects which raise fundamental issues as to how the London Dumping Convention (LDC) is to be implemented and applied in the future. IAPH is pleased to have an opportunity to express its views on these issues and to lend its assistance to the Scientific Group in the continuing consideration of ways in which the LDC can be made more effective.

2 Agenda Item 2 - Draft New Assessment Procedure: Review of Comments

2.1 At LDC 13, IAPH expressed its support for the draft New Assessment Procedure (NAP) developed by the Scientific Group. IAPH noted the discussions as to the role of the "precautionary principle" in the NAP and the different views of various delegations as to whether this principle requires a phasing out of all ocean dumping or would allow dumping decisions to be made on the basis of risk assessment procedures. In IAPH's view, use of the NAP, in conjunction with Annex III and the Special Guidelines for Dredged Material, is fully consistent with the precautionary principle. IAPH believes that the sea disposal option should be given equal consideration in a holistic waste management strategy that would allow disposal at sea where this will result in the least detriment to man's environment.

2.2 At LDC 13, the Secretariat presented a report prepared by GESAMP relating to measures to be used for protecting and managing the oceans. LDC13/INF.8. This paper was the outcome of two working groups established by GESAMP to consider scientifically-based strategies for marine environmental protection and management and a comprehensive framework for the assessment and regulation of waste disposal in the marine environment.

2.3 IAPH has carefully reviewed the GESAMP paper and is of the view that it sets forth a number of fundamental principles that are of extreme importance in defining how the "precautionary principle" should be applied under the LDC. The report recognizes the need for a "holistic" approach to the management of dumping at sea that minimizes the impact of anthropogenic activities on the environment as a whole. The GESAMP working groups found that it is both scientifically unsound and ethically wrong to take measures to protect one sector of the environment without considering the implications of that action to other sectors or the costs and benefits attendant on that action. There must be a sound comparison among alternative options for the disposal of substances which requires a multi-disciplinary approach. LDC13/INF.8,¶II.2. Under this approach, the assimilative capacity concept does not conflict with the precautionary approach. Protection of the marine environment does not require a zero discharge policy. Such an approach would reject scientifically based impact assessments that would prevent proper allocation of priorities in a rational evaluation of alternative options. Id., ¶II.5.

2.4 At the Thirteenth Meeting of the Scientific Group last year, there was agreement that any framework or definition for use of the precautionary principle should be based on a sound technical foundation. The Scientific Group found that the NAP contains technical componants of such a precautionary approach. At LDC 13, IAPH expressed its view that the Special Guidelines for Dredged Material adopted at LDC 10 provide a sound technical foundation for evaluating disposal of dredged material at sea and allow a scientifically based application of the precautionary principle.

2.5 The GESAMP report also notes that despite the fact that there may be uncertainties in predicting the consequences or effects of anthropogenic activity, scientific data and understanding frequently exist to allow conservative scientific predictions of the potential for environmental damage. In the view of the GESAMP working groups, judicious application of available information would generally support the development and implementation of appropriate control measures. Id., ¶III.1. The concept of precaution is intrinsic to scientific

prediction and allows the inherent uncertainties associated with scientific analysis and assessment to be accommodated. Such uncertainties can usually be quantified and conservatively allowed for in the assessment. The predictions can then be used to compare different development options on a common basis. Id., ¶III.3.

2.6 IAPH wishes to express its support for the principles set forth in the GESAMP report and invites the Scientific Group to give appropriate consideration to the report in its discussions of how the precautionary principle should be implemented and applied under the NAP.

3 Agenda Item 7 - Waste Management Issues

3.1 This agenda item includes issues relating to comparative assessments of land-based and sea disposal options and mitigation of the impact of dumping waste at sea. The principles set forth in the GESAMP report bear directly upon these and other waste management issues. IAPH invites the Scientific Group to give careful consideration to the GESAMP approach in the discussions of these waste management issues.

4 Conclusion

4.1 IAPH invites the Scientific Group to consider the views expressed by IAPH in this submission in its discussion of these agenda items.

INTERNATIONAL MARITIME ORGANIZATION

IMO

LDC 14/3
26 July 1991
Original: ENGLISH

FOURTEENTH CONSULTATIVE MEETING OF CONTRACTING PARTIES TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER
25-29 November 1991
Agenda item 3

CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUP ON DUMPING

Note by the Secretariat

1 The fourteenth meeting of the Scientific Group on Dumping was held from 2 to 5 April 1991. The report (LDC/SG 14/12) has been distributed to all countries and observer organizations.

2 The Fourteenth Consultative Meeting is invited to take note of the proceedings and discussions of the Scientific Group and to approve its report in general. In particular, the Consultative Meeting is invited to:

.1 note that the Secretariat has been requested to issue a circular letter reminding Contracting Parties that the Consultative Meeting had agreed that the draft New Assessment Procedure should be used on a trial basis for a one year period, and/or be the subject of a detailed review, as appropriate (LDC/SG 14/12, paragraph 2.4);

.2 provide guidance to the Scientific Group as to whether the draft New Assessment Procedure should be incorporated into the imminent revision of the Dredged Material Guidelines and future guidance on the disposal of sewage sludge (LDC/SG 14/12, paragraph 2.4);

.3 consider the recommendation that the Consultative Meeting institutes an in-depth review of sewage management on a global basis, and note a Statement on Management and Disposal of Municipal Sewage justifying the proposed evaluation and identifying the major technical and scientific topics to be addressed and the supporting documentation required (LDC/SG 14/12, paragraphs 3.16 and 3.18 and annex 2);

.4 decide whether the above evaluation should be carried out by the Scientific Group itself or whether one of the UN agencies working in the field concerned should be requested to carry out a comprehensive study which would subsequently be evaluated by the Scientific Group (LDC/SG 14/12, paragraph 3.17);

.5 note that the Secretariat had been requested to circulate the statement mentioned above to all Contracting Parties, requesting them to actively participate in the consideration of this matter at the Fourteenth Consultative Meeting (LDC/SG 14/12, paragraph 3.19);

.6 note that the Secretariat had been requested to update the draft Report on Permits Issued in 1988 in light of the comments received by the end of May 1991, and to distribute the corrected draft to all Contracting Parties asking them for further comments (LDC/SG 14/12, paragraph 4.22);

.7 provide guidance with regard to the reporting of dumping activities involving industrial wastes covered by resolution LDC.43(13), and consider the recommendation that Contracting Parties submit as part of their "dumping returns", evidence that a waste complies with that resolution (LDC/SG 14/12, paragraph 4.24);

.8 note that the IAPH in co-operation with IMO intends to carry out a new survey on dredged material disposal, taking into account experience gained with a previous survey in 1989 (LDC/SG 14/12, paragraphs 4.25 and 4.26);

.9 note the status of development of a bibliography on Effects of Dredging on the Marine Environment, and the request that the Secretariat explores the possibility of close co-operation with relevant technical organizations such as CEDA, PIANC and IAPH with a view to establishing bibliographic services on environmental aspects of dredging (LDC/SG 14/12, paragraph 7.5.6);

.10 consider the future work programme of the Scientific Group as set out in annex 3 and discussed in section 9 of its report, with a view to approval; and

.11 note that the Scientific Group re-elected Mr. R. Engler (United States) and Mr. R. Coenen (the Netherlands) as Chairman and Vice-Chairman respectively.

INTERNATIONAL MARITIME
ORGANIZATION

IMO

LDC 14/5
7 August 1991
Original: English

FOURTEENTH CONSULTATIVE MEETING OF
CONTRACTING PARTIES TO THE
CONVENTION ON THE PREVENTION
OF MARINE POLLUTION BY DUMPING
OF WASTES AND OTHER MATTER
25-29 November 1991
Agenda item 5

CONSIDERATION OF THE REPORT OF THE AD HOC GROUP OF LEGAL EXPERTS

Note by the Secretariat

1 The fifth meeting of the ad hoc Group of Legal Experts met from 8 to 11 July 1991. The report (LDC/LG 5/10) has been distributed to all countries and observer organizations.

2 The Fourteenth Consultative Meeting is invited to take note of the proceedings and discussions of the Legal Group and to approve its report in general. In particular the Consultative Meeting is invited to:

Review of provisions of the Convention in light of the requirements of the Basel Convention

.1 consider, with a view to its adoption, a draft resolution that responds to the request contained in resolution 2 of the Basel Conference by which Contracting Parties to the London Dumping Convention had been invited to examine the need for a review of the existing rules, regulations and practices with respect to dumping of hazardous wastes at sea in the light of the Basel Convention (LDC/LG 5/10, paragraphs 2.2 to 2.4 and annex 2);

.2 provide guidance to the Legal Group on further action to be taken pursuant to paragraph 6 of resolution LDC.42(13), i.e. whether to develop standards at this stage for the export for dumping at sea of wastes containing substances referred to in Annexes I and II to the London Dumping Convention (LDC/LG 5/10, paragraphs 2.5 and 2.7);

.3 note the adoption of the Bamako Convention which the Group considered to be a regional agreement consistent with Article VIII of the Convention;

Control of dumping activities from ships flying the flag of a Contracting Party in waters of a non-Contracting Party

.4 approve a questionnaire prepared by the Secretariat, in co-operation with the Chairmen of relevant expert groups, for the collection of information on the extent and nature of dumping operations from ships flying the flag of a Contracting Party in waters of a non-Contracting Party (LDC/LG 5/10, paragraph 3.5);

Consideration of the relationship between the London Dumping Convention and the Antarctic Treaty

.5 endorse the following conclusions reached by the Legal Group:

.1 the application of the requirements of the London Dumping Convention among the Antarctic Treaty Parties is not within the exclusive competence of the Antarctic Treaty (LDC/LG 5/10, paragraph 4.11.1);

.2 increased efforts should be made to promote membership in the London Dumping Convention among Antarctic Treaty Parties that are not yet Contracting Parties to the Convention (LDC/LG 5/10, paragraph 4.11.2);

.3 the fact that no mention of the London Dumping Convention is made in the recently established Protocol on Environmental Protection of the Antarctic Treaty and the Annexes thereto (XI ATSCM/2 of 21 June 1991) was not viewed as a problem in light of the obligations of Antarctic Treaty Parties that are also Contracting Parties to the London Dumping Convention and the intention of Antarctic Treaty Parties to develop rules for the prevention of pollution from dumping at sea which would have to be based on international law (LDC/LG 5/10, paragraph 4.11.3);

.4 the development of rules for the protection of the Antarctic Treaty area from dumping of wastes at sea should be welcomed and supported by the Contracting Parties to the London Dumping Convention (LDC/LG 5/10, paragraph 4.11.4);

.5 in light of the requirements of Article VIII of the London Dumping Convention, Contracting Parties should endeavour to act consistently with the objectives and provisions of such regional rules to be developed within the Antarctic Treaty framework (LDC/LG 5/10, paragraph 4.11.5); and

.6 questions concerning dumping at sea in the area south of 60° South latitude should be brought to the attention of the Consultative Meeting of Contracting Parties to the London Dumping Convention; it is beyond the competence or scope of the Legal Group or the Contracting Parties to the London Dumping Convention to decide whether questions concerning dumping at sea in the area south of 60° South latitude should be addressed to the Antarctic Treaty Consultative Meeting (LDC/LG 5/10, paragraph 4.11.6);

INTERNATIONAL MARITIME ORGANIZATION

IMO

LDC 14/5
7 August 1991
Original: English

FOURTEENTH CONSULTATIVE MEETING OF CONTRACTING PARTIES TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER
25-29 November 1991
Agenda item 5

CONSIDERATION OF THE REPORT OF THE AD HOC GROUP OF LEGAL EXPERTS

Note by the Secretariat

1 The fifth meeting of the ad hoc Group of Legal Experts met from 8 to 11 July 1991. The report (LDC/LG 5/10) has been distributed to all countries and observer organizations.

2 The Fourteenth Consultative Meeting is invited to take note of the proceedings and discussions of the Legal Group and to approve its report in general. In particular the Consultative Meeting is invited to:

Review of provisions of the Convention in light of the requirements of the Basel Convention

.1 consider, with a view to its adoption, a draft resolution that responds to the request contained in resolution 2 of the Basel Conference by which Contracting Parties to the London Dumping Convention had been invited to examine the need for a review of the existing rules, regulations and practices with respect to dumping of hazardous wastes at sea in the light of the Basel Convention (LDC/LG 5/10, paragraphs 2.2 to 2.4 and annex 2);

.2 provide guidance to the Legal Group on further action to be taken pursuant to paragraph 6 of resolution LDC.42(13), i.e. whether to develop standards at this stage for the export for dumping at sea of wastes containing substances referred to in Annexes I and II to the London Dumping Convention (LDC/LG 5/10, paragraphs 2.5 and 2.7);

.3 note the adoption of the Bamako Convention which the Group considered to be a regional agreement consistent with Article VIII of the Convention;

Control of dumping activities from ships flying the flag of a Contracting Party in waters of a non-Contracting Party

.4 approve a questionnaire prepared by the Secretariat, in co-operation with the Chairmen of relevant expert groups, for the collection of information on the extent and nature of dumping operations from ships flying the flag of a Contracting Party in waters of a non-Contracting Party (LDC/LG 5/10, paragraph 3.5);

Consideration of the relationship between the London Dumping Convention and the Antarctic Treaty

.5 endorse the following conclusions reached by the Legal Group:

.1 the application of the requirements of the London Dumping Convention among the Antarctic Treaty Parties is not within the exclusive competence of the Antarctic Treaty (LDC/LG 5/10, paragraph 4.11.1);

.2 increased efforts should be made to promote membership in the London Dumping Convention among Antarctic Treaty Parties that are not yet Contracting Parties to the Convention (LDC/LG 5/10, paragraph 4.11.2);

.3 the fact that no mention of the London Dumping Convention is made in the recently established Protocol on Environmental Protection of the Antarctic Treaty and the Annexes thereto (XI ATSCM/2 of 21 June 1991) was not viewed as a problem in light of the obligations of Antarctic Treaty Parties that are also Contracting Parties to the London Dumping Convention and the intention of Antarctic Treaty Parties to develop rules for the prevention of pollution from dumping at sea which would have to be based on international law (LDC/LG 5/10, paragraph 4.11.3);

.4 the development of rules for the protection of the Antarctic Treaty area from dumping of wastes at sea should be welcomed and supported by the Contracting Parties to the London Dumping Convention (LDC/LG 5/10, paragraph 4.11.4);

.5 in light of the requirements of Article VIII of the London Dumping Convention, Contracting Parties should endeavour to act consistently with the objectives and provisions of such regional rules to be developed within the Antarctic Treaty framework (LDC/LG 5/10, paragraph 4.11.5); and

.6 questions concerning dumping at sea in the area south of 60° South latitude should be brought to the attention of the Consultative Meeting of Contracting Parties to the London Dumping Convention; it is beyond the competence or scope of the Legal Group or the Contracting Parties to the London Dumping Convention to decide whether questions concerning dumping at sea in the area south of 60° South latitude should be addressed to the Antarctic Treaty Consultative Meeting (LDC/LG 5/10, paragraph 4.11.6);

Incineration at Sea

.6 note the conclusion of the Legal Group that, at the present time, there is no need to delete the control measures for incineration at sea from the Annexes to the Convention, and that the better time would be after the completion of the ongoing re-evaluation process and after a formal decision is made on wheter to terminate the practice within the London Dumping Convention (LDC/LG 5/10, paragraph 5.1.3);

.7 note the decision of the Sixth Ordinary Meeting of the Contracting Parties to the Barcelona Convention to amend its Dumping Protocol in order to ban incineration at sea in the Convention area and subsequent request to the Secretariat of the London Dumping Convention for guidance on possible approaches (LDC/LG 5/10, paragraphs 5.2.1 to 5.2.3);

Consideration of the ongoing work within other organizations concerning the assessment of liability

.8 note the views expressed at the meeting of the Legal Group that the Consultative Meeting should send a clear message to the IMO Legal Committee that the proposed IMO Convention on Liability and Compensation for the Carriage of Hazardous and Noxious Substances at Sea should not cover waste disposal at sea as defined under the London Dumping Convention (LDC/LG 5/10, paragraph 6.3);

.9 note that an informal group of experts from the Netherlands, Spain, Sweden and the United States met during the meeting to consider developments in other fora relating to liability and compensation and prepared a summary paper (LDC/LG 5/10, paragraph 6.4 and annex 3);

.10 note that the Legal Group agreed that it would proceed in developing a liability and compensation regime if so directed by the Consultative Meeting (LDC/LG 5/10, paragraph 6.5);

Interpretation of the exemption in Article III(1)(b)(ii) regarding "placement of matter for a purpose other than mere disposal thereof ..."

.11 note that the Legal Group at the request of some experts, reviewed and confirmed the conclusion reached at its fourth meeting, which had subsequently been accepted by the Thirteenth Consultative Meeting, that abandonment and toppling of offshore platforms should be considered "dumping" within the meaning of Article III(1)(a)(ii) (LDC/LG 5/10, section 7.2);

.12 note the diversity of views on the issue of whether the abandonment of pipelines constitutes dumping within the meaning of Article III (1)(a)(ii) (LDC/LG 5/10, section 7.3);

.13 note that the Legal Group was not able to provide explicit guidance on how to interpret the phrase "provided that such placement is not contrary to the aims of the Convention", but indicated that case by case determinations would have to be made by Contracting Parties (LDC/LG 5/10, paragraph 7.4.3);

Guidance on emergency cases (Article V(2))

.14 consider the recommendation that the Secretariat should issue a circular letter clarifying the differences between Article V(1) and Article V(2) and reminding Contracting Parties of the obligation for consultation under Article V(2);

Election of Chairman and Vice-Chairman

.15 note that the Legal Group elected Mr. A. Bos (Netherlands) and Ms. M. Chandler (United States) as Chair and Vice-Chair, respectively.

INTERNATIONAL MARITIME ORGANIZATION

IMO

LDC/LG 5/10
7 August 1991
Original: English

AD HOC GROUP OF LEGAL EXPERTS ON DUMPING - 5th meeting
8-12 July 1991
Agenda item 10

CONSIDERATION AND ADOPTION OF THE REPORT

REPORT OF THE FIFTH MEETING OF THE AD HOC GROUP OF LEGAL EXPERTS ON DUMPING

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ANNEXES

Annex 1 - Agenda for the Fifth Meeting of the Ad Hoc Group of Legal Experts on Dumping

Annex 2 - Draft Resolution LDC...(14) - Control of Transboundary Movements of Wastes for Disposal at Sea

Annex 3 - Report of the Informal Group of Experts on Development in Other Fora on Liability and Compensation

1 INTRODUCTION

1.1 The fifth meeting of the ad hoc Group of Legal Experts on Dumping was held at IMO Headquarters, London, from 8 to 11 July 1991, under the Chairmanship of Mr. A. Bos (Netherlands).

1.2 The meeting was attended by experts representing the following Contracting Parties to the London Dumping Convention:

CANADA
DENMARK
GERMANY
ITALY
JAPAN
MEXICO
NETHERLANDS
NORWAY
SPAIN
SWEDEN
USSR
UNITED KINGDOM
UNITED STATES

and by observers from the following United Nations agencies and international non-governmental organizations:

UNITED NATIONS ENVIRONMENT PROGRAMME/INTERIM SECRETARIAT FOR THE BASEL CONVENTION (UNEP/ISBC)
GREENPEACE INTERNATIONAL
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN)
THE OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P FORUM).

1.3 The Group had been directed by the Thirteenth Consultative Meeting of Contracting Parties to the London Dumping Convention to:

.1 review provisions of the London Dumping Convention in the light of the requirements of the Basel Convention, especially an analysis of the compatibility of the two Conventions, and develop standards regarding the export of hazardous wastes for disposal at sea;

.2 consider legal and procedural questions related to control of ships flying the flag of a Contracting Party and conducting dumping activities in waters of a non-Contracting Party;

.3 consider the relationship between the London Dumping Convention and the Antarctic Treaty;

.4 review legal questions regarding the status of the 1978 amendments on incineration at sea in light of the potential termination of that practice;

.5 review the ongoing work within other organizations concerning the assessment of liability;

.6 interpret the exemption in Article III(1)(b)(ii) regarding "placement of matter for a purpose other than mere disposal thereof ..."; and

.7 provide guidance on emergency cases (Article V(2)).

1.4 The Group also agreed to review discussions held at its fourth meeting concerning the question of whether the abandonment of offshore platforms should be considered "dumping" within the meaning of Article III(1)(a)(ii) of the Convention.

1.5 The agenda for the meeting, as adopted by the Group, appears at annex 1. This includes, under each agenda item, a list of documents prepared for consideration under the respective items. The Group also agreed on a timetable and work schedule as proposed by the Secretariat (LDC/LG 5/1/1, annex 2).

2 REVIEW OF PROVISIONS OF THE CONVENTION IN LIGHT OF THE REQUIREMENTS OF THE BASEL CONVENTION

2.1 The Group discussed the mandate given to it by the Thirteenth Consultative Meeting in resolution LDC.42(13) to elaborate standards compatible with those imposed by the Basel Convention for the export for dumping at sea of wastes containing substances referred to in Annexes I and II to the London Dumping Convention where the transboundary movement is between Contracting Parties to the London Dumping Convention. The Group reviewed the material prepared by the Secretariat, in co-operation with UNEP, with a view to identifying criteria and provisions that could be taken into account in elaborating such standards (LDC/LG 5/2).

2.2 There was general agreement that the Thirteenth Consultative Meeting and previous Meetings, had effectively dealt with the substantive issues contained in resolution 2 of the Plenipotentiary Conference of the Basel Convention. Resolution 2 invited the Contracting Parties to the London Dumping Convention to examine the need for a review of the existing rules, regulations and practices with respect to dumping of hazardous and other wastes at sea in the light of the Basel Convention with a view to recommending any additional measures needed within the London Dumping Convention, including its annexes, in order to control and prevent dumping of hazardous and other wastes at sea.

2.3 The Group developed elements of a response to the request contained in resolution 2 of the Basel Conference. The response, in the form of a draft resolution, contains three principal provisions:

.1 it states that the Contracting Parties believe that the disposal at sea regime embodied by the London Dumping Convention and its annexes as well as the resolutions, regulations and guidelines that have been adopted by the Contracting Parties to implement the Convention ensures the control and prevention of dumping of hazardous wastes at sea and constitutes a regime for the environmentally sound management of dumping;

.2 it requests the Parties to the Basel Convention, in developing technical guidelines for the environmentally sound management of wastes subject to the Basel Convention, to take into account the London Dumping Convention and appropriate regional agreements on the control of marine pollution by dumping at sea, and to keep the Contracting Parties to the London Dumping Convention fully informed of the development of such guidelines; and

.3 it urges all Parties to the Basel Convention to also become Contracting Parties to the London Dumping Convention.

2.4 The Group recommended that the Fourteenth Consultative Meeting consider the adoption of the draft resolution as shown in annex 2.

2.5 The Group agreed that the adoption of such a resolution by the Consultative Meeting would, at present, constitute appropriate action with regard to this agenda item. The Group noted, however, that the draft resolution dealt only partially with the request put to the Group by the Thirteenth Consultative Meeting. While paragraph 6 of resolution LDC.42(13) recommends that standards compatible to those imposed by the Basel Convention should be developed for the export for dumping at sea of all wastes containing substances referred to in Annexes I and II to the London Dumping Convention, the draft resolution deals only with dumping at sea arising from a transboundary movement of hazardous waste as these terms are defined by the Basel Convention. The Group noted that there was no legal problem with regard to wastes not covered by the draft resolution. It decided, however, that further guidance on action to be taken pursuant to paragraph 6 of resolution LDC.42(13) should be sought from the Consultative Meeting (see also paragraph 2.7 below).

2.6 The Group considered that there was limited overlap of requirements between the two Conventions. Moreover, any overlap had been further reduced in light of resolution LDC.43(13) on the phasing out of sea disposal of industrial wastes.

2.7 The Group noted that under the Basel Convention, technical guidelines will be developed in accordance with resolution 8 of the Basel Conference concerning the environmentally sound management of wastes; these could include guidance for the disposal and incineration of wastes at sea and the insertion of wastes into the seabed. It would be at that stage when close co-operation between Contracting Parties of both Conventions would be necessary to ensure consistency between the technical standards of the London Dumping Convention with those to be developed under the Basel Convention. The Group believed that it would be appropriate to wait until the conclusion of this process before a decision is made on the need for additional standards under the London Dumping Convention.

2.8 The Group considered the still open question as to whether the London Dumping Convention qualifies as an agreement for the purposes of Article 11(2) of the Basel Convention (i.e. the provisions of the Basel Convention shall not affect transboundary movements which take place pursuant to other agreements provided that such agreements are compatible with the environmentally sound management of hazardous wastes as required by the Basel Convention). The Group again could not reach agreement on this question. One delegation stated that the London Dumping Convention would qualify as an agreement under Article 11(2); however, the remainder of the Group thought otherwise or did not state a position. The Group stressed that the recommendation for the Consultative Meeting to adopt the draft resolution noted in paragraphs 2.3 and 2.4 above is without prejudice to the issue of whether the London Dumping Convention qualifies as an Article 11(2) agreement.

2.9 The Group was informed of the Bamako Convention which was adopted in January 1991 by a Conference of Member States of the Organization of African Unity (OAU) (LDC 5/2/1). The Convention imposes a ban on the import of all forms of hazardous wastes into Africa and contains requirements for the control of transboundary movements of such wastes generated in Africa. The Group noted in particular that "any dumping of hazardous wastes at sea, including incineration at sea as well as seabed and sub-seabed disposal, by Contracting Parties, whether in internal waters, territorial seas, exclusive economic zones or high seas shall be deemed to be illegal" (Article 4(2)(b)).

2.10 The Group considered the Bamako Convention as a regional agreement, the development of which is consistent with Article VIII of the London Dumping Convention. Given the lack of up-to-date information on the status of the Bamako Convention, and in the absence of representatives from Contracting Parties who may have signed or ratified the Bamako Convention, no other discussion took place on this issue.

3 CONTROL OF DUMPING ACTIVITIES FROM SHIPS FLYING THE FLAG OF A CONTRACTING PARTY IN WATERS OF A NON-CONTRACTING PARTY

3.1 The Group noted the directive from the Thirteenth Consultative Meeting to 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.

3.2 The Group noted that there was little available information on sea disposal activities carried out by vessels of Contracting Parties in waters of non-Contracting Parties, and all known cases were related to dredging operations.

3.3 The Group was in agreement that the relevant jurisdictional provisions of the Convention in such cases would be Articles VI(2)(b) and VII (1)(a). The Group further noted that, in accordance with customary international law, dumping in waters subject to the jurisdiction of the coastal State would require the consent of that State.

3.4 The Group also noted that, while Articles VI(2)(b) and VII (1)(a) provide the jurisdictional basis for the application of the Convention, from a practical point of view it was extremely difficult for a flag State to exert control over activities that may be taking place in areas far away from that State.

3.5 The Group concluded that in order to properly address the issue, it would be helpful to first have available relevant factual information on the extent and nature of the dumping operations involved. The Secretariat agreed to prepare a questionnaire for the collection of the relevant information in co-operation with the Chairman of the ad hoc Group of Legal Experts on Dumping and the Chairman of the Scientific Group on Dumping. The draft questionnaire would be submitted to the Fourteenth Consultative Meeting for approval.

4 CONSIDERATION OF THE RELATIONSHIP BETWEEN THE LONDON DUMPING CONVENTION AND THE ANTARCTIC TREATY

4.1 The Group recalled that the Thirteenth Consultative Meeting had requested it to consider the relationship between the London Dumping Convention and the Antarctic Treaty in order to formulate a response to a question posed by UNEP

"As UNEP understands resolution [recommendation] XV-3 of the report of the Fifteenth Consultative Meeting of the Antarctic Treaty, the parties to the Antarctic Treaty are implementing the provisions of the London Dumping Convention concerning dumping at sea whether they are parties to it or not. That leads UNEP to understand that the application of the London Dumping Convention among the Antarctic Treaty parties is within the exclusive competence of the Antarctic Treaty and does not fall within the competence of the London Dumping Convention. The question addressed to this Meeting is whether or not this understanding is correct."

4.2 The Group noted (LDC/LG 5/4) that recommendation XV-3 (paragraphs 18, 19 and 21) provides inter alia that:

.1 solid non-combustible wastes, which cannot be removed to land disposal sites outside the Antarctic Treaty area and which are to be disposed of at sea, shall only be disposed of at selected dumping sites in deep waters, within or outside the Antarctic Treaty area and only in accordance with the London Dumping Convention, as well as any other relevant international agreements;

.2 dumping of any other wastes at sea shall be carried out in accordance with the London Dumping Convention; and

.3 vessels engaged in supporting Antarctic activities may under certain conditions stockpile waste for appropriate disposal at deep water sites in accordance with relevant Antarctic Treaty recommendations, the London Dumping Convention and any other relevant international agreements.

4.3 The Group further noted that the Eleventh Special Consultative Meeting of Contracting Parties to the Antarctic Treaty at the First Part of its Second Session (Madrid, April 1991) had in its draft "Annex on Marine Pollution" included reference to the London Dumping Convention in that it requested each Contracting Party to the Antarctic Treaty to take appropriate measures necessary to ensure compliance, within the area to which the provisions of the Annex apply, with the standards established in the relevant provisions of the London Dumping Convention (and other conventions related to marine pollution) (LDC/LG 5/4/2).

4.4 Several delegations informed the Group of the outcome of the Second Part of the Second Session of the Eleventh Special Consultative Meeting (Madrid, June 1991) which had agreed to delete all references to the London Dumping Convention in the Protocol on Environmental Protection to the Antarctic Treaty and the Annexes established so far thereto. These delegations indicated that the Special Consultative Meeting felt that a single reference to the London Dumping Convention would not serve the originally intended purpose and that instead Contracting Parties should at a later stage develop their own legally binding rules addressing the protection of the Antarctic Treaty area from dumping at sea which would be consistent with the objectives and aims of the London Dumping Convention. One delegation expressed concern that legally binding provisions on the protection of the environment of the Antarctic Treaty area from dumping at sea have not yet been developed within the framework of that Treaty.

4.5 The representative from IUCN, with reference to the above question posed by UNEP (paragraph 4.1 above) and to the Antarctic Treaty recommendation XV-3, expressed the view that the application of the London Dumping Convention among the Antarctic Treaty Parties was not within the exclusive competence of the Antarctic Treaty, but that such application also falls within the competence of the London Dumping Convention (LDC/LG 5/4/1). Twenty-one States are Parties to both the London Dumping Convention and the Antarctic Treaty, whereas only five Antarctic Treaty Parties (Ecuador, India, Republic of Korea, Peru and Uruguay) were not Contracting Parties to the London Dumping Convention. Any of the twenty-one Antarctic Treaty/London Dumping Convention Parties would have a strong basis for asserting, under recommendation XV-3, the competence of the London Dumping Convention, for example, in cases where non-Contracting Parties conduct activities inconsistent with the London Dumping Convention.

4.6 Several delegations noted that recommendation XV-3 had not yet entered into force and was therefore not yet legally binding and would, in light of the recent developments described in paragraph 4.4 above, probably not be implemented. Other delegations expressed their views that the reference in recommendation XV-3 to the London Dumping Convention was an indication that the Antarctic Treaty did not intend to assert exclusive competence over the requirements of the London Dumping Convention in the Antarctic Treaty Area and that standards to be developed with regard to the prevention of marine pollution by dumping within the Antarctic Treaty area would fully recognize the existing requirements of the London Dumping Convention.

4.7 The observer from UNEP explained that his question should be seen in connection with Article 4(6) of the Basel Convention:

> "The Parties agree not to allow the export of hazardous wastes or other wastes for disposal within the area south of 60° South latitude, whether or not such wastes are subject to transboundary movement."

It was pertinent for the Interim Secretariat of the Basel Convention to identify the body/bodies or organization/organizations with competence in the field related to the above provision.

4.8 The observer of IUCN expressed the view that the Interim Secretariat of the Basel Convention should, with regard to administrative issues related to the requirements of Article 4(6), address the Secretariat of the London Dumping Convention, the Antarctic Treaty Consultative Meeting and/or the depository Government of the Treaty, viz the United States Government.

4.9 Some delegations pointed out that Article 210 of the United Nations Convention on the Law of the Sea contained requirements on pollution by dumping which, as customary international law, were binding on Antarctic Treaty Parties that are not Contracting Parties to the London Dumping Convention. One delegation expressed the view that the United Nations Convention on the Law of the Sea has not yet become customary international law.

4.10 Other delegations drew the attention of the Group to Article VIII of the London Dumping Convention which requests Contracting Parties to endeavour, taking into account characteristic regional features, to enter into regional

agreements consistent with the London Dumping Convention for the prevention of pollution, especially by dumping. Contracting Parties to the London Dumping Convention shall endeavour to act consistently with the objectives and provisions of such regional agreements.

4.11 The Group, in light of the above discussion, reached the following conclusions:

.1 the application of the requirements of the London Dumping Convention among the Antarctic Treaty Parties is not within the exclusive competence of the Antarctic Treaty;

.2 increased efforts should be made to promote membership in the London Dumping Convention among Antarctic Treaty Parties that are not yet Contracting Parties to the Convention;

.3 the fact that no mention of the London Dumping Convention is made in the recently established Protocol on Environmental Protection of the Antarctic Treaty and the Annexes thereto (XI ATSCM/2 of 21 June 1991) was not viewed as a problem in light of the obligations of Antarctic Treaty Parties that are also Contracting Parties to the London Dumping Convention and the intention of Antarctic Treaty Parties to develop rules for the prevention of pollution from dumping at sea which would have to be based on international law;

.4 the development of rules for the protection of the Antarctic Treaty area from dumping of wastes at sea should be welcomed and supported by the Contracting Parties to the London Dumping Convention;

.5 in light of the requirements of Article VIII of the London Dumping Convention, Contracting Parties should endeavour to act consistently with the objectives and provisions of such regional rules to be developed within the Antarctic Treaty framework; and

.6 questions concerning dumping at sea in the area south of 60° South latitude should be brought to the attention of the Consultative Meeting of Contracting Parties to the London Dumping Convention; it is beyond the competence or scope of the Legal Group or the Contracting Parties to the London Dumping Convention to decide whether questions concerning dumping at sea in the area south of 60° South latitude should be addressed to the Antarctic Treaty Consultative Meeting.

5 INCINERATION AT SEA

5.1 Status of the 1978 amendments on incineration at sea after termination of that practice

5.1.1 The Group noted that in early 1991 the sole remaining incineration ship (Vulcanus II) ceased operation and its owners terminated their business. The Group recalled that the Thirteenth Consultative Meeting directed the Group to review the status of the measures adopted by the Contracting Parties to the London Dumping Convention to control incineration operations as well as measures adopted by other bodies of the International Maritime Organization regarding construction and equipment of incineration ships, discharges into the sea of tank residues from incineration vessels, and requirements for the surveillance of cleaning operations

5.1.2 Several delegations noted the decision of the Thirteenth Consultative Meeting to re-evaluate incineration at sea as early in 1992 as possible with a view to proceeding towards the termination of this practice by 31 December 1994 and that the scientific and technical experts of incineration at sea and the practical availability of safer and more environmentally acceptable land-based alternatives would form the basis of the re-evaluation. Other delegations noted that the provisions in the London Dumping Convention dealing with incineration at sea could serve as a useful model for non-Contracting Parties if that need were to ever arise.

5.1.3 The Group concluded that, at the present time, there was no need to delete the control measures for incineration at sea from the Annexes to the Convention. A better time to review the status of the control measures would be after the completion of the re-evaluation process and after a formal decision is made on whether to terminate the practice within the London Dumping Convention. The Group also noted that the re-evaluation only concerns incineration of noxious liquid wastes and does not encompass other wastes incinerated at sea, such as solid wastes and oily residues from tankers and other ships.

5.2 Request from Contracting Parties to the Barcelona Convention

5.2.1 The Secretariat drew the attention of the Group to a decision of the Sixth Ordinary Meeting of Contracting Parties to the Barcelona Convention to amend the dumping protocol in order to bar specifically incineration at sea activities in the Convention area and a subsequent request to the Secretariat of the London Dumping Convention for guidance on possible approaches.

5.2.2 In an initial response to the Barcelona Convention the Secretariat noted that the easiest approach would probably be to include an amendment to Annex I of the Protocol by adding a Section C: "Wastes and other matter containing substances listed in Annex I, paragraphs 1, 7 and 9 [or/and others], shall not be disposed at sea by combustion on marine incineration facilities, i.e. vessels, platforms or other man-made structures operating for the purpose of waste incineration at sea", and that similar requirements could also be added to Annex II. This approach was recommended for two reasons. Firstly, amending the annexes to the Protocol rather than the Protocol itself is a quicker method for the amendment to enter into force. Secondly, the inclusion of specific substances listed in various paragraphs of the annexes avoids the problem of banning practices for the incineration of wastes at sea which might be carried out without causing any harmful effects to the environment.

5.2.3 The Group welcomed the action by the Contracting Parties to the Barcelona Convention to amend the Barcelona Convention and/or the associated Dumping Protocol with a view to incorporating their decision to ban ocean incineration activities in the Mediterranean Sea Area and it noted the suggestion of the Secretariat outlined in paragraph 5.2.2 above. The Group found it difficult to provide precise advice given the lack of familiarity with the Barcelona Convention and its accompanying Dumping Protocol. One delegation noted that the present wording of the Annexes referred to substances and materials rather than activities and raised the question of whether it was possible to include a prohibition on disposal activities within the Annexes. However, the Group did agree that an amendment to either the Protocol (however lengthy the process might be) or the annexes would be

appropriate. The Group believed that it was best left to the Contracting Parties of the Barcelona Convention to decide on the most appropriate approach to be used.

6 CONSIDERATION OF THE ON-GOING WORK WITHIN OTHER ORGANIZATIONS CONCERNING THE ASSESSMENT OF LIABILITY

6.1 The group took note of the ongoing work within IMO concerning the draft convention on liability and compensation in connection with the carriage of hazardous and noxious substances at sea (LDC/LG 5/6) and of UNEP's work concerning the preparation of a protocol on liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes (LDC/LG 5/6/1).

6.2 A representative from the IMO Secretariat discussed the draft IMO convention under negotiation in the IMO Legal Committee. The representative drew the attention of the Group in particular to paragraphs 24 and 25 of the Report of the 64th Session of the Legal Committee (LEG 64/10) which discusses the issue of whether definition of "incident" under that regime should include deliberate, authorized dumping at sea.

6.3 Many delegations stated that the Consultative Meeting should send a clear message to the IMO Legal Committee, expressing its view that the proposed IMO convention should not cover waste disposal at sea as defined under the London Dumping Convention. These delegations variously expressed the views that waste disposal at sea is a fundamentally different activity than the subject of ocean transport which is the primary focus of the proposed IMO convention; that while IMO has expertise in matters of navigation, the scientific and technical expertise relating to waste disposal at sea lies in the Consultative Meeting; that waste disposal at sea undertaken pursuant to a permit authorized under the London Dumping Convention may not be appropriate for inclusion in a liability and compensation regime; and that even if Governments were to wish to elaborate a liability and compensation regime for waste disposal at sea, the Contracting Parties to the London Dumping Convention should be responsible for the development of the relevant policies and provisions rather than IMO. Some delegations noted, however, that the ocean transport of waste (apart from the act of deliberate disposal of wastes at sea) may be appropriate for consideration within the proposed IMO convention.

6.4 In response to the request by the Thirteenth Consultative Meeting (LDC 13/15, paragraph 7.7A), an informal group of experts from the Netherlands, Spain, Sweden, and the United States met during the fifth meeting of the Ad Hoc Group of Legal Experts to consider developments in other fora relating to liability and compensation. The informal group prepared a paper updating developments in other fora, which is attached as annex 3 to this report.

6.5 Taking into consideration the outcome of the informal group, the Group saw no reason to further discuss the necessity of elaborating a liability and compensation regime within the London Dumping Convention at this time. The Group agreed that such a decision was a matter of policy for the Consultative Meeting, and if so directed, the Legal Group would proceed in developing a regime.

7 INTERPRETATION OF THE EXEMPTION IN ARTICLE III(1)(b)(ii) REGARDING "PLACEMENT OF MATTER FOR A PURPOSE OTHER THAN THE MERE DISPOSAL THEREOF ..."

7.1 The Group noted the documents submitted by the Secretariat and the E & P Forum under this agenda item and on related issues under agenda item nine (Any other business) (LDC/LG 5/7, LDC/LG 5/9 and LDC/LG 5/INF.2).

7.2 Abandonment of Platforms

7.2.1 The Group recalled that at its fourth meeting legal questions related to the disposal at sea of offshore installations and structures were discussed. The Thirteenth Consultative Meeting, in reviewing the report of the fourth meeting, accepted the conclusions of the ad hoc Group in that abandonment and toppling of offshore platforms should be considered "dumping" within the meaning of Article III(1)(a)(ii) of the Convention.

7.2.2 The Group reviewed the discussions held at its fourth meeting concerning the question of whether the abandonment of offshore platforms should be considered "dumping" within the meaning of Article III(1)(a)(ii) of the Convention.

7.2.3 In the view of a few delegations there was need for further consideration of the meaning of the term "abandonment" because confusion had arisen over the use of the term. The term "abandonment" has a technical meaning within the offshore oil and gas industry that covers the entire process of decommissioning, removal and disposal. These delegations stressed that "abandonment" should be regarded as within the scope of the Convention only in so far as it involved deliberate disposal, and that the leaving in place of platforms or parts of platforms was not deliberate disposal. It was therefore not dumping under the terms of Article III. They also pointed out that the Guidelines and Standards for the Removal of Offshore Installations and Structures in the Continental Shelf and Exclusive Economic Zone (IMO Assembly Resolution A.672(16)) (hereafter called IMO Guidelines and Standards) provided for environmental considerations to be taken into account in any decision to leave a platform partially or wholly in place. There appeared, therefore, no practical need for "leaving in place" to be regulated under the London Dumping Convention.

7.2.4 Other delegations were of the view that the Group at its fourth meeting and the Thirteenth Consultative Meeting had been quite explicit that abandonment constitutes dumping. These delegations stressed that there was no confusion by the Group or the Consultative Meeting over the use of the term dumping, including the notion of abandonment, i.e., it was understood and agreed that such dumping was referring to the leaving in place of platforms. They pointed out that the permitting process does not have to be burdensome under such an interpretation.

7.2.5 The representative from the E & P Forum stated that use of the term "abandoned" in paragraph 1.1 of the IMO Guidelines and Standards creates confusion in light of the decision of the Thirteenth Consultative Meeting. The representative noted that the E & P Forum would welcome clarification on whether two situations would be considered dumping:

.1 non-removal where an installation would be illuminated in accordance with paragraph 3.3 of the IMO Guidelines and Standards; and

.2 partial removal leaving the lower part of the removed structure remaining as a stump on the seabed.

7.2.6 In summarizing the discussions, the Chairman noted that the term "abandonment" may be difficult to interpret and may have different meanings in a technical sense, but the majority of delegations questioned whether this was relevant in terms of the decision of the Thirteenth Consultative Meeting. With regard to the request from the E & P Forum for clarification on the cases noted in paragraph 7.2.5 above, he noted that the decision of the Consultative Meeting would mean that non-removal, for the purpose of disposal, is dumping and therefore subject to regulation by a coastal State in a manner consistent with national and international obligations. The Chairman concluded by noting that if any Contracting Party believed that the issue deserves more attention, it was open to them to pursue it further at the Consultative Meeting.

7.3 Abandonment of pipelines

7.3.1 In light of the conclusion of the Thirteenth Consultative Meeting that abandonment of platforms would be considered dumping, the Group was requested to express its views as to whether pipelines could be viewed as structures under Article III(1)(c)(ii) and thus be included under this interpretation.

7.3.2 Three arguments were presented in support of the interpretation that pipelines would fall under the regime of the London Dumping Convention:

.1 in light of the aims and intent of the Convention to promote the effective control of all sources of pollution of the marine environment and to prevent the pollution of the sea by dumping of waste and other matter, abandonment of pipelines should be considered dumping;

.2 a line of reasoning parallel to that used for concluding that abandonment of platforms is dumping, would reach a similar conclusion for abandonment of pipelines; and

.3 the plain meaning of "deliberate disposal" and "man-made structures" (as plain meaning is defined by Article 31 of the Vienna Convention on the Law of Treaties) means that abandonment of pipelines should be considered deliberate disposal and therefore dumping.

7.3.3 Other delegations questioned whether abandonment of pipelines constitutes dumping within the meaning of Article III(1)(a)(ii). They noted that pipelines and structures are treated differently under customary international law as reflected in the United Nations Convention on Law of the Sea and that submarine pipelines were apparently not meant to be included in the term "installations" used in Article 5 of the 1958 Geneva Convention. They agreed that as the provisions of Article 60 of the Law of the Sea were derived from Article 5 of the 1958 Convention it may be assumed also that the intention was not to include pipelines under Article 60(3). With one or two minor exceptions the provisions of the Law of the Sea generally appear to be consistent with this approach.

7.3.4 Others questioned whether the leaving in place of a pipeline should be regarded as dumping within the meaning of the Convention since it was not deliberate disposal.

7.3.5 The representative of the E & P Forum advised the Group on the provisions being developed on a regional basis for the protection of the environment during the decommissioning of offshore pipelines, and cited the protocol adopted under the Kuwait Convention for the protection of the marine environment from the exploration or exploitation of seabed resources, and a protocol on this topic that is under consideration for the Barcelona Convention.

7.3.6 The Chairman noted the diversity of views on the issue and stressed that ultimate resolution of the legal question would depend upon the interpretation of other international legal instruments and the definitions of "structures" and "waste".

7.4 Exemption clause of Article III(1)(b)(ii)

7.4.1 The Group recalled that, for the case where a platform was converted to another use either by toppling or placement on the sea bottom (e.g. as an artificial reef), the Thirteenth Consultative Meeting concluded that such disposal could fall within the exception clause of Article III(1)(b)(ii) and such disposal be considered "placement" of matter for a purpose other than the mere disposal as long as it would not be contrary to the aims of the Convention. As a consequence, it would be the responsibility of a coastal State to conduct a case by case assessment of whether such an activity would be contrary to the aims of the Convention.

7.4.2 The Secretariat noted that it receives requests from Contracting Parties and States considering ratification of the Convention for guidance on how to interpret the phrase "provided that such placement is not contrary to the aims of this Convention". For example, platforms, as well as other waste materials (e.g. fly ash blocks, derelict motorcars, tyres, etc.), have been used for building artificial reefs. Questions also have been raised related to the use of radioactive tracers, oil and dispersants, floating plastics, expendable measuring devices, etc. for scientific purposes as well as the sinking of submarines for training purposes.

7.4.3 The Group was not able to provide explicit guidance and indicated that case by case determinations would have to be made by Contracting Parties. A few delegations expressed their concern that the interpretation of the aims of the Convention should not be left to a single coastal State but should be the responsibility of all Contracting Parties.

8 GUIDANCE ON EMERGENCY CASES (ARTICLE V(2))

8.1 The Group recalled that the Thirteenth Consultative Meeting had requested the Group to provide guidance on what constitutes an "emergency" where a special permit could be issued for the disposal at sea of wastes and other matter containing substances listed in Annex I. The Group had before it the existing Interim Procedures and Criteria for Determining Emergency Situations (LDC V/12, annex 5).

8.2 The Secretariat noted that issuance of emergency special permits by Contracting Parties had been considered for a number of different circumstances, including some cases where the wastes did not necessarily contain Annex I substances. Issuance of emergency permits was under consideration for a number of reasons:

.1 actual emergency situations, as defined by Article V(2) of the Convention;

.2 situations that did not meet the requirements of Article V(2) of the Convention but fell under the definition of emergency as defined in domestic legislation of Contracting Parties; and

.3 force majeure situations.

8.3 In the course of its discussions the Group noted that there are two Articles to the Convention that might be relevant in responding to emergency situations:

.1 Article V(2) which was the subject of this agenda item and which provides the opportunity to issue a special permit in emergency cases as an exception to the Article IV(1)(a) prohibition against dumping of Annex I materials. The Group also noted Article XIV (4)(e), which provides for the development of criteria for determining emergencies under Article V(2); and

.2 Article V(1) which provides for dumping in force majeure situations when necessary to secure the safety of human life or of vessels, aircraft, platforms, or other man-made structures at sea. One delegation noted that this provision does not require a permit prior to dumping and that it could be used in extreme situations where, because of time constraints, issuance of a prior permit is not possible.

8.4 One delegation noted that it issued emergency permits in situations where there were significant and imminent threats to human life and there was no other feasible solution. That delegation questioned whether it was necessary to provide additional guidance on what constitutes an "emergency" for purposes of Article V(2) since that Article already contains obligations as to prior consultation with other affected countries and with the Organization.

8.5 The Group agreed that there did not appear to be a marked need for further guidance on what constitutes an "emergency", but did believe that notification of cases in which States have issued emergency permits (for whatever reason) might prove to be useful to other States. The Group also concluded that the Secretariat should consider issuing a circular letter that clarifies the differences between Article V(1) and Article V(2) and reminds Contracting Parties of the obligation for consultation under Article V(2).

9 *ANY OTHER BUSINESS*

9.1 UN Conference on Environmental Development (UNCED)

9.1.1 The representative of IUCN drew the attention of the Group to a paper titled "Marine Pollution Prevention Strategies" that has been prepared by Greenpeace International for the upcoming Third Session of the Preparatory

Committee of the UN Conference on Environment and Development (12 August to 4 September 1991). The paper calls upon governments participating in the Preparatory Committee process to put forward five related proposals for adoption by UNCED:

.1 a global treaty on land-based sources of marine pollution, negotiated and presented to a Diplomatic Conference for adoption and signing by June 1993;

.2 regional and national "action plans", linked with the global land-based sources treaty and adopted by June 1994;

.3 integrated coastal zone management plans, developed and implemented at the national level as soon as possible;

.4 expedited implementation of precautionary action and clean production technologies; and

.5 a high-level intergovernmental global oceans forum, linked with the UN General Assembly, to assist in strategic planning and co-ordination of ocean-related activities.

9.1.2 The IUCN representative indicated that resolution LDC.40(13) more generally addressed both the need for a new global instrument to deal with land-based sources of pollution and the strengthening of global co-ordination, and that the Greenpeace paper provided a more focussed formulation of those objectives. The IUCN delegate urged delegations at the meeting to champion and support the initiatives contained in the Greenpeace paper.

9.2 Election of Chairman and Vice-Chairman

Mr. A. Bos (Netherlands) and Ms. M. Chandler (United States) were unanimously elected as Chairman and Vice-Chairman of the ad hoc Group of Legal Experts.

10. CONSIDERATION AND ADOPTION OF A REPORT TO THE FOURTEENTH CONSULTATIVE MEETING

The report of the fifth meeting of the ad hoc Group of Legal Experts on Dumping was considered and adopted on the final day of the meeting (11 July 1991) for submission to the Fourteenth Consultative Meeting.

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ANNEX 1

AGENDA FOR THE FIFTH MEETING OF
THE AD HOC GROUP OF LEGAL EXPERTS ON DUMPING

1 Adoption of the Agenda

LDC/LG 5/1 - Secretariat: Provisional Agenda

LDC/LG 5/1/1 - Secretariat: Annotated Agenda

2 Review of provisions of the Convention in light of the requirements of the Basel Convention

LDC/LG 5/2 - Secretariat: Review of provisions of the Convention in light of the requirements of the Basel Convention

LDC/LG 5/2/1 - Secretariat: The Bamako Convention

3 Control of dumping activities from ships flying the flag of a Contracting Party in Waters of a non-Contracting Party

No documents submitted under this item

4 Consideration of the relationship between the London Dumping Convention and the Antarctic Treaty

LDC/LG 5/4 - Secretariat: Consideration of the relationship between the London Dumping Convention and the Antarctic Treaty

LDC/LG 5/4/1 - Greenpeace International and Friends of the Earth International : The application of the London Dumping Convention among Antarctic Treaty parties

LDC/LG 5/4/2 - Secretariat: The Eleventh Antarctic Treaty Special Consultative Meeting, Madrid, April 1991

5 Status of the 1978 amendments on incineration at sea after termination of that practice

No documents submitted under this item

6 Consideration of the ongoing work within other Organizations concerning the assessment of liability

LDC/LG 6	-	Secretariat: Draft IMO convention on liability and compensation in connection with the carriage of Hazardous and Noxious Substances by Sea (HNS)
LDC/LG 5/6/1	-	Secretariat: Preparation by UNEP of a protocol on liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes

7 Interpretation of the exemption in Article III(1)(b)(ii) regarding "placement of matter for a purpose other than the mere disposal thereof..."

LDC/LG 5/7	-	Secretariat: Guidelines and Standards for the Removal of Offshore Installations and Structures in the Continental Shelf and Exclusive Economic Zone (IMO Assembly Resolution A.672(16))

8 Guidance on emergency cases (Article V(2))

No document submitted under this item.

9 Any other business

LDC/LG 5/9	-	Secretariat: Outcome of the seventeenth meeting of the Oslo Commission (10-12 June 1991)
LDC/LG 5/INF.2	-	E & P Forum: Abandonment of offshore platforms

10 Consideration and adoption of a report to the Fourteenth Consultative Meeting

LDC/LG 5/10	-	Report
LDC/LG 5/WP.1	-	Secretariat: Draft report of the Fifth Meeting of the ad hoc Group of Legal Experts on Dumping

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ANNEX 2

(DRAFT) RESOLUTION LDC... (14)

CONTROL OF TRANSBOUNDARY
MOVEMENTS OF WASTES FOR DISPOSAL AT SEA

THE FOURTEENTH CONSULTATIVE MEETING,

NOTING the aim of the London Dumping Convention to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea,

NOTING FURTHER that the aim of the Basel Convention is to reduce to a minimum the generation of hazardous wastes and other wastes, to control the transboundary movement of such wastes and their disposal and to ensure their environmentally sound management in order to protect human health and the environment,

TAKING into account that resolution 2 of the Basel Conference requested the Contracting Parties of the London Dumping Convention to examine the need for a review of the existing rules, regulations and practices with respect to dumping of hazardous and other wastes at sea in the light of the Basel Convention with a view to recommend any additional measures needed within the London Dumping Convention, including its annexes, in order to control and prevent dumping of hazardous and other wastes at sea,

CONSIDERING that the question of the applicability of the Basel Convention to dumping at sea arises only with regard to:

.1 a transboundary movement of hazardous waste, as these terms are defined by the Basel Convention, or

.2 Article 4, paragraph 6 of the Basel Convention which provides that the export of hazardous wastes or other wastes for disposal within the area south of 60° South latitude, whether or not such wastes are subject to transboundary movement, is not allowed,

CONSIDERING FURTHER that such cases, in practice, are not frequent given that there are only few documented cases where wastes have been exported for the purpose of dumping at sea and will become less frequent in the light of resolution LDC.43(13) calling upon the Contracting Parties to adopt individual or regional commitments to cease the dumping of industrial wastes before 31 December 1995, and therefore there is no need at present to develop any additional standards regarding transboundary movements of hazardous wastes,

RECALLING resolution LDC.11(V) concerning the export of wastes for incineration at sea and the need for adequate controls for the disposal of these wastes, and resolution LDC.39(13) requesting Contracting Parties to consider terminating the practice of incineration at sea of noxious liquid substances by 31 December 1994,

CONSIDERING ALSO that Article 210 of the United Nations Convention on the Law of the Sea provides that dumping within the territorial sea and the exclusive economic zone or onto the continental shelf should not be carried out without the express prior approval of the Coastal State and that, consistent with this provision, resolution LDC.29(10) calls on Contracting Parties exporting waste for sea disposal to provide advance notification of any intended movement of such wastes and to obtain the prior consent of appropriate national authorities in any country receiving such waste,

RECALLING FURTHER that resolution LDC.29(10) also urges Contracting Parties to endeavour to ensure that wastes exported for a purpose other than sea disposal are not ultimately disposed of at sea unless done in compliance with the requirements of the London Dumping Convention,

RECOGNIZING that resolution LDC.42(13) calls upon Contracting Parties to prohibit or not to permit the export of wastes for dumping at sea, particularly those wastes containing substances referred to in Annexes I and II of the London Dumping Convention, to States not Party to the Convention; and urges all Contracting Parties to the London Dumping Convention to also become Parties to the Basel Convention,

1 BELIEVES that the disposal at sea regime embodied by the London Dumping Convention and its annexes as well as the resolutions, regulations and guidelines that have been adopted by the Contracting Parties to implement the Convention ensures the control and prevention of dumping of hazardous wastes at sea and constitutes a regime for the environmentally sound management of dumping;

2 REQUESTS the Parties to the Basel Convention, in developing technical guidelines for the environmentally sound management of wastes subject to the Basel Convention, to take into account the London Dumping Convention and appropriate regional agreements on the control of marine pollution by dumping at sea, and to keep the Contracting Parties to the London Dumping Convention fully informed of the development of such guidelines; and

3 URGES all Parties to the Basel Convention to also become Contracting Parties to the London Dumping Convention.

***

25 Other delegations, however, suggested that this matter deserved further consideration by the Committee. In support of this position, reference was made to the need of ensuring adequate compensation for the victim of deliberate - lawful as well as unlawful - dumping, in view of the difficulties involved in proceeding against the producer of the substances dumped. It was also stated that in its present text, the draft could be interpreted to cover any deliberate unlawful dumping. In this connection, it was important to establish how far the considerations on questions related to liability had advanced in the Ad Hoc Group of Legal Experts on Dumping set up under the London Dumping Convention in order to ensure the appropriate co-ordination with the work of the Legal Committee in this respect.

2.1.3 The Legal Committee did not directly address the question of whether the proposed HNS convention should cover incidents involving the transport of wastes destined for dumping (i.e., apart from the act of dumping); however, a Working Group of Technical Experts, convened by the Legal Committee, referred to the possibility of addressing these cases under the proposed convention. The definition of substances to be covered by the proposed convention is still under consideration by the Committee, with the assistance of the technical working group.

2.2 CLC/FUND Conventions

2.2.1 A liability and compensation regime for oil spills was originally established under IMO's auspices through the 1969 Convention on Civil Liability for Oil Pollution Damage (CLC) and the 1971 Fund Convention (FUND). The CLC lays down a regime of strict liability for snipowners, determines the corresponding limitation amounts and creates a system of compulsory insurance in sums equivalent to the owner's total liability for one incident. The FUND Convention, which is supplementary to CLC, establishes a regime for compensation to victims when the compensation under CLC is inadequate. The International Oil Pollution Compensation Fund (IOPC Fund) set up under the FUND Convention is an inter-governmental organization established for the purpose of administering the regime of compensation created by the FUND Convention.

2.2.2 In 1984, IMO sponsored a diplomatic conference at which the CLC/FUND regimes were amended by the adoption of Protocols to both of those underlying treaties. Among other features, the Protocols extended the geographic scope of coverage to the seaward edge of the EEZ; substantially increased limits of liability; revised the definition of pollution damage; and extended the scope of the Conventions to cover spills of persistent oil from unladen tankers and expenses incurred for preventive measures even when no oil spill occurs.

2.2.3 However, in 1990, prior to the enactment of its domestic Oil Pollution Act, the United States Congress stated that the CLC/FUND Protocols would not be ratified by the United States because they preempted the right of States to enact more stringent regimes (e.g., unlimited liability, which is preserved as a right of sub-divisions of the United States) pursuant to the Oil Pollution Act of 1990. As a result of the US decision not to ratify the 1984 CLC/FUND Protocols, it does not appear that the conditions for the entry into force of these protocols will be met in the near future.

ANNEX 3

REPORT OF THE INFORMAL GROUP OF EXPERTS ON DEVELOPMENTS IN OTHER FORA ON LIABILITY AND COMPENSATION

1 The Thirteenth Consultative Meeting of the Contracting Parties to the London Dumping Convention requested an informal group of experts from the Netherlands, Spain, Sweden, and the United States to follow developments in other fora concerning the establishment of liability and compensation systems in those fora (LDC 13/15, paragraph 7.7A). This Group met informally during the fifth meeting of the Ad Hoc Group of Legal Experts on Dumping and prepared the following report, which is acknowledged as not being exhaustive.

2 International Maritime Organization

2.1 Draft IMO Convention on Hazardous and Noxious Substances

2.1.1 A liability and compensation regime for incidents involving the carriage of hazardous and noxious substances (HNS) at sea is under consideration by the Legal Committee of IMO. As currently drafted, the regime would compensate victims of HNS incidents through a two-tier approach. The first tier is premised upon compulsory shipowner insurance. A second tier would consist of a fund financed by levies on cargo interests.

2.1.2 The 64th session of the Committee (March 18-22, 1991) considered whether the deliberate dumping of wastes at sea should be covered by the proposed convention. Paragraphs 24 and 25 of the Report of the Committee state:

> 24 The Committee considered whether this definition [of "incident"] should include deliberate, authorized dumping at sea. Most delegations were not in favour of such inclusion. In their opinion, damage caused by dumping should be considered as a result of an industrial activity which should be differentiated from the subject matter to be addressed by the convention, namely, the carriage of goods and substances by sea. The liability of the shipowner should be understood as linked to maritime activities among which dumping could not be included. In this connection, reference was made to the scope of the application defined in paragraph 1 of article 3 following which the convention should be applied to damage arising from the carriage of dangerous goods by sea. It was also pointed out that such risks could not be considered as among the mutual risks covered by the P and I Clubs. It would therefore be difficult to provide adequate insurance cover.

4.2 The UNEP ad hoc working group considered several elements that broadly fall into categories of scope of application/definitions, civil liability and compensation, international liability and compensation, and procedures. The elements envisaged, among other things:

.1 the need for an international liability regime to ensure availability of resources for prompt response action in the case of damage and compensation which cannot be solely obtained by way of civil liability. Compensation is to be provided by an international fund or by state liability, or a combination of civil liability, an international fund and state liability;

.2 absolute liability (option 1) or strict liability with certain exonerations (option 2);

.3 joint and several liability for those involved in illegal traffic;

.4 channelling of liability inter alia to generator and/or disposer;

.5 no fixed financial limits on liability (except for clean-up remedial action); and

.6 the duty to maintain insurance or other financial guarantee.

For the assessment of clean-up and remedial action costs, as well as for a valuation of environmental damage, the elements envisage that an international approach should be considered (e.g. through domestic courts, assisted by an international technical advisory body, the administrator of the fund, or possibly an international commission with exclusive jurisdiction).

4.3 The UNEP ad hoc working group recommended applicability of a protocol to:

.1 damage arising from a transboundary movement as defined in the Basel Convention (article 2, paragraphs 3 and 9; article 4, paragraph 12); and

.2 damage arising from transboundary movements of hazardous wastes and other wastes (as defined in article 1 of the Basel Convention) from their point of origin to and including the completion of their disposal.

4.4 However, the UNEP ad hoc working group also recommended exclusion clauses that would make the protocol inapplicable to:

.1 certain wastes (e.g., radioactive waste and wastes derived from the normal operation of ships);

.2 incidents specifically covered by international or regional instruments on liability and compensation with regard to land, air or maritime transport of hazardous or noxious substances or the dumping of waste at sea;1/ and

---

1/ The UNEP ad hoc working group noted that this recommendation should be

2.2.4 Given this existing situation, the IOPC Fund and its Member States, in consultation with IMO, are discussing various options for amending or revising the provisions contained in the 1984 CLC/FUND Protocols such that they will attract sufficient support to enable those Protocols to enter into force. Those discussions include the likely convening of a Diplomatic Conference in 1992, hosted by the Government of the United Kingdom, to present amendments that will have previously been considered by the IMO's Legal Committee.

3 The Antarctic Treaty

3.1 Although the concept of a liability regime has been discussed generally by the Contracting Parties to the Antarctic Minerals Treaty, a separate liability protocol has not yet been developed.

3.2 The Contracting Parties are in the process of finalizing a Protocol to the Antarctic Treaty on Environmental Protection (with draft annexes).

3.3 The Protocol as currently drafted provides in Article 16 that:

.1 The Parties undertake to develop rules and procedures relating to liability for damages resulting from human activities in Antarctica. Such rules and procedures shall be included, as appropriate, in one or more annexes to be adopted in accordance with Article 8(2) of this Protocol.

.2 Pending the entry into force of such Annex or Annexes, the Parties shall seek to ensure that recourse is available in accordance with their legal systems for relief in respect of damage caused by pollution of the environment by natural or juridical persons under their jurisdiction.

3.4 Development of specific liability schemes is not yet in process. It is understood that ocean dumping will be addressed in the annexes to the Protocol and will be addressed under a liability regime.

4 The Basel Convention

4.1 Article 12 of the Basel Convention obligates the parties to "co-operate with a view to adopting, as soon as practicable, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes." Resolution 3 of the Conference of Plenipotentiaries on the Global Convention on the Control of Transboundary Movements of Hazardous Wastes requested the Executive Director of UNEP to establish an ad hoc working group of legal and technical experts to develop elements which might be included in a protocol on liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes and to report the results of this group's work to the first meeting of the Parties. The working group met from 6 to 9 July 1990 in Geneva and from 6 to 9 March 1991 in Nairobi. During these two sessions the working group was able to fulfil the mandate entrusted to it by resolution 3 of the Basel Conference. This result will be presented, as requested by resolution 3, to the first meeting of the Parties to the Basel Convention.

delegations at the last session of the Standing Committee. Also discussed is a draft convention on compensation for nuclear damage supplementary to the 1963 (IAEA) Vienna Convention and the 1960 (OECD) Paris Convention, which envisages the pooling of liability of operators of nuclear power stations. Discussions have also addressed the possible establishment of an International Tribunal, which - under certain conditions - could replace the domestic courts for the installation state as the sole competent body to deal with claims for compensation for nuclear damage. The aims of a revised Vienna Convention are, inter alia, a substantial increase in the amount of compensation to be paid for nuclear damage, a decrease in exoneration grounds, and a broadening of the concept of nuclear damage for which strict liability will exist.

7 The Economic Commission for Europe (ECE)

7.1 Within the framework of the ECE a task force was set up to consider responsibility and liability regarding transboundary water pollution. The group held meetings in September 1989 and in June and September 1990 and presented its Final Report in November 1990. The Final Report contained as an annex "Guidelines on Responsibility and Liability regarding Transboundary Water Pollution". The Final Report was sent via the Working Party on Water Problems to the Senior Advisers to ECE Governments on Environmental and Water Problems for their consideration (ECE Doc. ENVWA/R. 45 of 29 November 1990). The Senior Advisers decided at their meeting in February-March 1991 "to examine the possibilities for providing guidance for countries in resolving issues relating to responsibility and liability at national and international levels inter alia on the basis of the work accomplished by the task force --- and of information prepared by the secretariat on ongoing work on relevant activities by other international organizations." (ECE/ENV/18 of 18 March 1991, p. 19).

7.2 The guidelines deal with responsibility and liability in the field of both national and international law, hence in cases between individuals, between States, and between individuals and States. Responsibility concerns the consequences of a breach of a legal duty, the obligation to compensate for the harm caused by (especially hazardous) activities which are not necessarily unlawful.

8 The Council of Europe

Following the discussions of the 15th Conference of European Ministers of Justice (Oslo, 1986), the Committee of Ministers of the Council of Europe set up in 1987 a committee of experts to propose measures for compensation for damage caused to the environment. The committee of experts is currently formulating a draft convention on damage resulting from activities dangerous to the environment. The aim of the draft convention is to ensure adequate compensation for damage resulting from such activities and to provide for means of prevention of damage and reinstatement of the environment. The draft convention provides for a regime of strict liability of the operator in control of the dangerous activity which has caused the damage. A dangerous activity means an activity which is performed professionally and includes, in particular, activities which make use of dangerous substances, dangerous genetically modified organisms and dangerous micro-organisms. Other activities proposed to be covered are those involving technologies producing dangerous radiations, the operation of installations or sites for incineration, treatment, handling or recycling of waste and of permanent waste

.3 claims falling solely within the national jurisdiction of a State party.

5 The International Law Commission

5.1 The International Law Commission (ILC) took up consideration of state responsibility and international liability for injurious consequences arising out of acts not prohibited by international law. The ILC has yet to come up with a unified approach to these topics, and it is beginning to appear that any effort to develop a set of draft articles for eventual inclusion in a convention remains a very long-range goal.

5.2 In 1990 the Special Rapporteur submitted a report to the ILC containing a draft convention on international liability for injurious consequences arising out of acts not prohibited by international law. Draft article 1 defines the scope of the convention to apply to activities carried out in the territory of a State or in other places under its jurisdiction when the physical consequences of such activities cause, or create a risk of causing, transboundary harm. The Special Rapporteur also examined the possibility of extending these principles to include harm to areas beyond national jurisdiction of States. The Commission has considered whether it would be appropriate to clarify the scope of the proposed convention by listing activities covered by it. Dangerous activities in article 2 of the draft include handling, storage, production, unloading and similar operations. The Commission is also considering defining dangerous substances (presumably for the purpose of placing activities involving such substances under a strict liability regime). It is not entirely clear from the present draft and stage of discussion whether and to what extent the draft articles would apply to dumping activities "authorized" under the London Dumping Convention. Nor is it clear whether the State of origin should be liable for transboundary harm caused by activities of private parties under its jurisdiction or control.

5.3 As to the relationship between the draft convention and the London Dumping Convention, draft article 4 states:

> Where States parties to the present articles are also parties to another international agreement concerning activities referred to in article 1, in relations between such States the present articles shall apply, subject to that other international agreement.

5.4 The ILC recently met in Geneva to continue its work on liability. A report was not available for the consideration of the informal group.

6 The International Atomic Energy Agency (IAEA)

Pursuant to the decision of the IAEA Board of Governors (23 February 1989) the Agency established a Working Group on Liability for Nuclear Damage with a view to studying all aspects of liability regarding nuclear damage in preparation of an eventual revision of the 1963 Vienna Convention on Civil Liability for Nuclear Damage. Since April 1990 the matter has been dealt with by the Standing Committee on Liability for Nuclear Damage, which held its last (Third) Session in Vienna from 8 to 12 April 1991. Both civil and international state liability for nuclear damage have been discussed. A number of countries opposed state liability as an alternative to civil liability. A supplementary role of state liability was acceptable to some

disposal sites. The draft provides for access to information and in particular information held by public authorities and information held by operators. In addition, certain organizations may bring an action to court requesting specific measures (i.e. prohibition of a dangerous activity, order requiring the operator to take preventive measures, order requiring the operator to reinstate or clean up the damaged environment). Excluded are damage arising from carriage and damage caused by nuclear substances.

INTERNATIONAL MARITIME ORGANIZATION

IMO

LDC/SG 14/12
24 June 1991
Original: ENGLISH

SCIENTIFIC GROUP ON DUMPING - 14th Meeting
2-5 April 1991

REPORT OF THE FOURTEENTH MEETING OF THE SCIENTIFIC GROUP ON DUMPING

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ANNEXES

ANNEX 1 Agenda of the fourteenth meeting of the Scientific Group on Dumping

ANNEX 2 Management and disposal of municipal sewage

ANNEX 3 Future work programme of the Scientific Group on Dumping

1 INTRODUCTION

General

1.1 The fourteenth meeting of the Scientific Group on Dumping was convened at IMO Headquarters, London, from 2 to 5 April 1991, under the Chairmanship of Mr. R. Engler (United States); Mr. R. Coenen (Netherlands) was Vice-Chairman of the Scientific Group.

1.2 The meeting was attended by delegations from the following Contracting Parties to the London Dumping Convention:

BELGIUM
CANADA
DENMARK
FINLAND
FRANCE
GERMANY
GREECE
IRELAND
ITALY
JAPAN
MEXICO
NAURU
NETHERLANDS
NORWAY
PORTUGAL
SOUTH AFRICA
SPAIN
UNITED KINGDOM
UNITED STATES

by an observer from the following United Nations Organization:

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC) OF UNESCO

and by observers from the following inter-governmental and non-governmental organizations:

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

Opening of the meeting

1.3 In opening the proceedings the Chairman welcomed all participants to the fourteenth meeting of the Scientific Group on Dumping.

Address of welcome

1.4 The Chief of the Office for the London Dumping Convention, Mr. M. Nauke, welcomed all participants on behalf of the Secretary-General of IMO. In his welcoming address, Mr. Nauke drew attention to the intersessional activities of the Secretariat carried out in response to the instructions given by the Consultative Meeting of Contracting Parties to the London Dumping Convention and to the contributions made by other scientific bodies. With regard to the

work of the Scientific Group, attention was also drawn to the decision of the Thirteenth Consultative Meeting that this Group shall increase emphasis on matters dealing with waste management issues, with special emphasis on clean technology, case studies and source reduction applicable to wastes and waste categories disposed of at sea. For this fourteenth meeting of the Scientific Group a number of submissions addressing this item have been received so that a fruitful discussion could be expected at the current meeting of the Group.

Adoption of the agenda

1.5 The provisional agenda (LDC/SG 14/1) was adopted as the agenda for the meeting and is shown at annex 1. This includes, under each agenda item a list of documents which were submitted for consideration by the Scientific Group. The Scientific Group also agreed on a timetable and a work schedule for the meeting (LDC/SG 14/1/1).

2 DRAFT NEW ASSESSMENT PROCEDURE (NAP): REVIEW OF COMMENTS

2.1 The Group recalled that seven responses had been received to date from Contracting Parties in relation to the request for an initial review of the NAP (LDC.2/Circ.266 of 19 June 1990). The Group further recalled that the Thirteenth Consultative Meeting had agreed to the proposal of the Scientific Group for trial use of the NAP and/or detailed review, as appropriate, for a one year period. During the trial period Contracting Parties were asked to give the NAP a detailed review and report their findings to the Secretariat (LDC 13/15, paragraph 3.17). Included in this review would be a compilation of wastes prepared for inclusion in the prohibition list and the development of limits or criteria for the action list, taking into account the guidelines adopted under the Convention. Following the review by Contracting Parties, a meeting of the ad hoc Group of Experts on the Annexes would be held to discuss pertinent aspects of the review comments and of the NAP itself. Results of the Experts meeting would be subsequently submitted to the fifteenth meeting of the Scientific Group for its review and action as appropriate.

2.2 It was suggested by some delegations that the review by the Group of Experts should focus on specific issues such as the prohibition and action lists and the technical basis thereof. Several delegations also noted that submissions on the NAP could vary from proposals concerning specific contaminants and concentrations or reference values for the action list to information on full trial applications of the NAP to a specific material such as dredged material.

2.3 The observer from IAPH (LDC/SG 14/2) expressed strong support for the GESAMP strategy paper on the protection and management of the oceans that had been introduced at the Thirteenth Consultative Meeting (LDC 13/INF.8). The principles set forth in the GESAMP paper were in IAPH's view of extreme importance in defining how the "precautionary principle" should be applied under the London Dumping Convention. IAPH noted that it had always supported a "holistic" approach to waste management which gives equal consideration to all disposal options, including disposal at sea, and that it favoured the selection of the disposal option of least detriment. The GESAMP paper supported these principles and provided a further technical basis for this approach. As the Scientific Group continues its consideration of the "precautionary principle", particularly in the context of the NAP, IAPH invited the Scientific Group to take the recommendations in the GESAMP paper

into account, particularly in assuring that a sound technical foundation would continue to be provided for evaluating the disposal at sea of dredged material. The observer from IAPH also described meetings of his organization where the NAP was discussed and relayed questions to the Scientific Group concerning effectiveness of testing, costs, sediment quality criteria, application of waste prevention audit, and effective date of the NAP.

2.4 Other discussions on the NAP noted the need for its broader application to increase emphasis on source reduction and waste prevention activities. It was further noted that recent actions by the Consultative Meeting may limit actual application of the NAP to sewage sludge and dredged material. The Group noted that guidance was needed from the Fourteenth Consultative Meeting as to whether the Scientific Group should incorporate the NAP into future revisions of the Dredged Material Guidelines and into future guidance on sewage sludge disposal. It was concluded that the Secretariat should issue a circular letter reminding Contracting Parties of the decision for a trial use of the NAP and/or a detailed review, as appropriate, for a one year period.

3 BENEFICIAL USES AND ALTERNATIVE DISPOSAL OF SEWAGE SLUDGE

3.1 The Group recalled that the Thirteenth Consultative Meeting had agreed to the recommendation of the Scientific Group to increase emphasis on matters dealing with waste management issues and that the topic for special emphasis for the fourteenth meeting of the Scientific Group would be beneficial use: and alternative disposal of sewage sludge.

3.2 Written submissions for consideration by the Scientific Group were provided by the Secretariat (LDC/SG 14/3), the United States (LDC/SG.14/INF.5), Germany (LDC/SG 14/INF.10) and Denmark (LDC/SG 14/INF.14).

Oslo Commission

3.3 The Secretariat presented a summary of a 1989 Oslo Commission report entitled "Review of Sewage Sludge Disposal at Sea" (LDC/SG 14/3). The document provided information on the amount of sewage sludge produced and dumped at sea, action taken to reduce contamination at source and on alternative disposal methods and use of sewage sludge.

3.4 The Oslo Commission report reached the following conclusions:

.1 the amount of sewage sludge being generated is increasing as a result of the extended use of and improvements in sewage treatment. Satisfactory means of disposal for this increased volume of sludge is likely to pose a continuing problem for all Contracting Parties;

.2 in some countries an alternative to sewage treatment and sludge generation is the construction of longer pipelines in order to avoid health and aesthetic problems on neighbouring beaches. However, such solutions, if not accompanied by appropriate measures to reduce the level of hazardous substances in the sewage effluents, could result in unacceptably high levels of contaminants being discharged directly to the marine environment. (Pipeline discharges do not fall within the competence of the Oslo Convention.);

.3 the Commission agreed that these measures should be maintained and that further reduction measures should be taken where necessary;

.4 no conclusion could be drawn as to trends in organohalogen levels in sewage sludge;

.5 countries have different interpretations as to the effects of sea disposal of sewage sludge. It was recognized that local hydrographic conditions have been an important factor which has led to those countries which dump sewage sludge to regard sea disposal as an environmentally acceptable option; and

.6 the provisions of the Oslo Convention are fulfilled by those countries which dump sewage sludge.

3.5 The Group noted that the Oslo Commission adopted in 1990 a Decision on the Cessation of Dumping Sewage Sludge at Sea to take effect before the end of 1998 (LDC 13/15, paragraph 11.12).

United Kingdom

3.6 The United Kingdom delegation informed the Group that its water industry had, at the request of the Licensing Authority, prepared plans to enable sea disposal to be ended by the end of 1998 at the latest. In some areas, use in agriculture and production of compost have been identified as an alternative to sea disposal; incineration was proposed for other areas. The United Kingdom also noted that pressure on land-based options would be increased with the adoption of EC Legislation on municipal waste water treatment, which would significantly increase the quantity of sewage sludge produced.

Germany

3.7 The delegation of Germany, in introducing its document (LDC/SG 14/INF.10) on alternative disposal methods of sewage sludge, noted that three basic methods were employed in Germany: land-fill (50-60% of the production), use as fertilizer in agriculture (25-30% of the production) and different incineration methods (15-20% of the production). Up to now, public health aspects and heavy metal contents were seen as main problems in the area of sewage sludge treatment and disposal. Recent discoveries of contamination of sludge by toxic organic compounds such as dioxins, PCBs and other persistent chemicals have resulted in the reassessment of previously used sludge disposal methods. Information was also provided on six processes currently in use or under investigation for the treatment of sewage sludge as follows:

- coal-fired power stations with melting chambers
- lignite-fired power stations
- cement cylindrical rotary kilns

- asphalt mixing plants
- refuse incineration plants
- incineration plants for sewage sludge

Three large-scale techniques for the incineration of sewage sludge were also discussed:

- incineration in fluidized-bed furnaces
- incineration in multiple-hearth furnaces
- incineration in fluidized-bed/multiple hearth furnaces

The German delegation included in its description of each of the treatment methods details concerning the technique, emissions, residues, technical realization and cost estimates.

Denmark

3.8 The Danish delegation provided information on Danish sludge disposal practices (LDC/SG 14/INF.14). The general trend in Denmark is that increasing amounts of sewage sludge are being sent to incineration plants or used on agricultural land, and less to land fills. Currently, 14 kg/person/year (dry weight) are produced. This is expected to rise to 23 kg/person/year in 1994 (total 220,000 tonnes).

United States

3.9 The United States introduced three technical reports on beneficial uses and alternative disposal methods of sewage sludge (LDC/SG 14/INF.5). The first report entitled "Environmental Regulations and Technology: Use and Disposal of Municipal Wastewater Sludge" was prepared in September 1984 and provided a summary of major technical considerations associated with various sewage sludge disposal and beneficial use options. The other two reports entitled "Sludge Recycling Alternatives" and "Pursuing Beneficial Uses of Sludge" were prepared as part of efforts to ensure that current sludge dumpers comply with requirements in the United States to terminate sewage sludge dumping by 31 December 1991. These were the results of two separate meetings organized by the U.S. Environmental Protection Agency with authorities from those municipalities that use the ocean dumping option, scientists, engineers, public interest groups and representatives from Federal, State and local governments. The meetings were conducted to exchange information on the availability and approaches to alternative means of sludge disposal.

3.10 The report entitled "Environmental Regulations and Technology: Use and Disposal of Municipal Wastewater Sludge" provided a summary of technical aspects of land-based disposal technologies, as well as factors to be considered in development of options for disposal. The report focused upon (1) land application, (2) distribution and marketing of sludge as a fertilizer, (3) land filling, and (4) incineration. Advantages and disadvantages were presented for each technology. Factors to be considered include existing sludge management programmes, future land uses, sludge quality and characteristics, costs, soil characteristics and topography, and regulatory controls.

3.11 The report on "Sludge Recycling Alternatives" was prepared in November 1989 and focused upon identifying the major difficulties and solutions associated with implementing land based alternatives. Key recommendations included:

- Consider regionalization in developing long term solutions
- Use multiple contractors and diversification in sludge management options
- Involve the public in all phases of decision-making
- Obtain clear direction from appropriate agencies on permitting requirements
- If possible, use a site already owned by the jurisdiction producing the sludge

3.12 The report on "Pursuing Beneficial Uses of Sludge" was prepared in September 1990 and focused on specific techniques available for beneficial uses of sludge. It noted that public concerns over the use and disposal of sewage sludge needed to be addressed including the perceived risks of potential toxic substances, potential ground and surface water contamination, pathogens, and odours. In order to effectively market sludge as a product it was emphasized that careful attention should be put upon (1) pretreatment programmes to reduce toxic components at their source prior to discharge to municipal collection systems, (2) process controls for a consistent produce, and (3) the meeting of end use product specifications, such as appearance and odour control.

Discussion

3.13 Some delegations noted that the documents provided information on numerous disposal alternatives to sewage sludge disposal at sea and that the information should be highlighted in the report to the Consultative Meeting so that developing countries could be made aware of the range of the existing alternatives to sea disposal. Other delegations noted that, while information was provided on alternatives, conclusions should not be based solely on the information provided. In this connection it was noted that the amount of sludge produced will increase due to population growth and increased levels of treatment. This could lead to an excess of sludge for the area of agricultural land available. This in turn could lead to the need for alternative methods of treatment and disposal. Thus, a more thorough analysis was needed.

3.14 Some delegations noted that additional information on sewage management could be made available from other fora (e.g. the World Health Organization, the World Bank, United Nations Environment Programme, United Nations Center for Human Settlements (Habitat), and the Organisation for Economic Co-operation and Development (OECD)). The Secretariat was requested to solicit information from these and other groups to assist with the work of the Scientific Group.

3.15 With regard to the use of the term "beneficial uses", the Group noted that all disposal options have advantages and disadvantages. For example, it was noted that sea disposal either through pipes or by dumping might in some cases be beneficial in terms of increasing productivity in the vicinity of the disposal operation, yet this could also lead to eutrophication and reduced species diversity. The technical reports contained in the United States submission (LDC/SG 14/INF.5) provided a useful summary of the advantages and disadvantages of various disposal options.

Future review

3.16 The Group discussed the best way on how to proceed with future reviews of sewage sludge disposal at sea and related issues. It was felt that any attempt to evaluate the future use of sea disposal for sewage sludges would require an in-depth analysis on a global basis of sewage generation, and associated treatment and disposal options. The recent report on "The State of the Marine Environment" (GESAMP 1990) had highlighted the problems in coastal environments due to inadequate management of municipal sewage in heavily populated areas throughout the world. The Group believed that there is a need to address this issue at the international level and the Scientific Group might provide a suitable forum to conduct a broad evaluation that would help to identify the actions required to alleviate coastal pollution by sewage as well as the role of sea disposal in this regard. Therefore, the Scientific Group recommended that the Fourteenth Consultative Meeting institutes an in-depth review of sewage management on a global basis in which all Contracting Parties would participate.

3.17 The Group noted that such an evaluation by the Scientific Group would require endorsement by the Consultative Meeting, the compilation of a comprehensive body of information and the full participation of developing countries. It was acknowledged that several UN agencies had been addressing aspects of sewage management for some years and that their co-operation in the proposed evaluation would be essential. Alternatively, the Consultative Meeting could decide to request one of these agencies to undertake a study on its behalf; in this case the Scientific Group could evaluate the results of the study to assess the implications for the work of the Convention.

3.18 The Group acknowledged that although the degree of involvement of the Scientific Group was subject to decisions of the Consultative Meeting, it was clear that sewage management issues could be an important item on the Group's agenda for the next few years. In order to structure its future work, and to encourage active participation by all Contracting Parties, the Scientific Group prepared a statement justifying the proposed evaluation and identifying the major technical and scientific topics to be addressed and the supporting documentation required. This statement is shown at annex 2.

3.19 To expedite this work, the Scientific Group requested the Secretariat, in consultation with the Chairman of the Scientific Group, to circulate the statement on Management and Disposal of Municipal Sewage to all Contracting Parties. The statement should be accompanied by a covering letter explaining the background to the work proposed and requesting active participation by all Contracting Parties at the Fourteenth Consultative Meeting and any work commissioned thereon to the Scientific Group. The Group requested the Secretariat to circulate the statement at the earliest opportunity to facilitate a detailed discussion of the Scientific Group's proposals during the Fourteenth Consultative Meeting.

3.20 Some delegations, whilst supporting the need for a global review of sewage management, expressed their doubts that the Consultative Meeting was the appropriate body to institute such a review.

4 MONITORING AND DISPOSAL ACTIVITIES AT SEA

Evaluation of monitoring reports

TiO_2 dumping

4.1 The German delegation described an investigation examining macrobenthos inside and outside a TiO_2 acid waste disposal area near Helgoland in the North Sea (LDC/SG 14/4).

4.2 It was pointed out that the dumping of waste from the production of TiO_2 in Germany ceased at the end of 1989 and that this was made possible by avoidance and recycling measures. Between 1985 and 1989, the Biologische Anstalt Helgoland carried out comparative studies of macrobenthos in the North Sea dumping area and in reference areas. Out of three separate dredge surveys, one revealed an impoverished epibenthos in the dumping area. Out of four separate box core surveys, one revealed significantly lower abundance and diversity of macrofauna in the dumping area compared to the reference area. It was concluded that negative effects of the dumping on the benthos can neither be ruled out nor proven.

4.3 One delegation observed that the discharge area was a high energy dispersive site and suggested the study area may not have been large enough to adequately assess the dumping operation. In this connection another delegation observed that low biomass and species diversity would be expected at such a high energy site and this would further complicate using macrobenthic species for assessment purposes.

Macrozoobenthos

4.4 The Netherlands' delegation described activities related to the monitoring of macrozoobenthos on the Netherlands' continental shelf (LDC/SG 14/5/4). The programmes served three aims:

.1 to map areas on the Netherlands' continental shelf on the basis of detailed benthic surveys (spatial monitoring). This activity forms part of an environmental zonation study where on the basis of various ecosystem features, ecological values and sensitivities, an environmental zone has been identified that will be given special protection;

.2 to identify key/indicator benthic species in relation to disturbance factors such as contamination and physical impacts, to develop integrated field (gradient) monitoring of disturbance factors and benthic species, and mesocosm studies. Several long-term studies are undertaken around offshore drilling locations, in and around the titanium dioxide dumping area, in a gravel area, and in areas of heavy beam trawling; and

.3 to follow temporal trends in benthic communities, in order to assess the present situation and the future situation once the level of contaminant input has been reduced.

Fish diseases

4.5 The Group took note of two fish disease studies carried out by the Netherlands: "The Occurrence of Liver Tumours in Flatfish in Dutch Waters" (LDC/SG 14/4/1) and "Fish Diseases Monitoring in Relation to Chemical Contamination" (LDC/SG 14/4/2). The prevalence of liver nodules in dab and flounder in the North Sea increased with fish size and was higher in females of a given size than in males. The spatial pattern of liver nodules in dab appeared to show an association with contamination levels since the highest prevalences occurred in more contaminated areas such as the river Rhine outflow and the titanium dioxide dumping area. However, the spatial variation was not statistically significant. In contrast, the prevalence of liver nodules in flounder showed considerable spatial variation, which was consistent over a period of five years (1985-1989), corresponding to the concentrations of PAHs in the sediments. On the whole, it seems likely that liver nodules in both dab and flounder found in the Netherlands' part of the North Sea have a complex multifactorial aetiology, with chemical factors acting as one of many causal factors. The results of studies in the Netherlands' Wadden Sea indicate that a high proportion of the flounder population is affected by ulcers and finrot. The prevalence of skin diseases in this area was much higher (by a factor of 2-9) when compared with other Netherlands' coastal waters and the highest prevalence of ulcers in flounder was observed in the vicinity of the drainage sluices. Although no simple causal relation could be established, several factors could be identified, namely: salinity fluctuations, lack of oxygen (as a result of eutrophication), high contaminant levels, the presence of toxic algal species, and bacteria. In conclusion, the results of the Netherlands' fish disease monitoring programmes strongly indicate that there are associations between the prevalence of fish diseases (liver abnormalities in flatfish) and contaminant levels (PAHs in sediments). However, the field studies also illustrate the difficulties in establishing (direct) causal relationships, and to separate the possible influence of chemical factors from other factors. It is expected that the current mesocosm studies, together with assembled new field data, will provide more insight in causal-effect relationships with respect to fish disease prevalence.

4.6 One delegation emphasized the importance of information on the general health and size of the fish stock when interpreting the results of fish disease studies.

Incineration at Sea

4.7 The German delegation presented a study entitled "Organochlorine Compounds in Marine Organisms from the International North Sea Incineration Area" (LDC/SG 14/4/3) describing the results of investigations by the Bundesanstalt fÜr Fischerei of the levels of organochlorine compounds in two species of fish and several species of benthic organisms measured on three occasions during the period 1988 to 1990. In each individual survey comparisons were made between the levels of contaminants in organisms within the incineration area with those from outside. In several instances significantly higher levels of octachlorostyrene (OCS), hexachlorobenzene (HCB) and polychlorinated biphenyls (PCB) congeners 170 and 183 were found in the incineration site. A comparison of the levels of similar contaminants in nine regions of the North Sea was also conducted in 1988 and revealed that the levels of HCB and OCS in dabs of the incineration site were greater than in

those of other areas. It was assumed that the elevated levels of OCS and HCB in organisms in the incineration area were related to the previous incineration of noxious liquid wastes at sea.

4.8 In the ensuing discussion it was questioned whether the assumption of incineration as the dominant source of certain contaminants such as OCS was justified in relation to other local atmospheric and adjacent riverine (Elbe) sources. It was further questioned whether, even if the dominant source was sea incineration, atmospherically-released contaminants would be retained in the immediate vicinity of the incineration site when both the atmospheric and oceanographic conditions would be likely to disperse such contaminants over fairly large areas. It was noted, however, that wet and/or dry deposition from an incinerator plume could be expected to deposit incineration byproducts in the immediate area, thereby providing an input of contaminants that could serve as a plausible source of the elevated levels detected in marine organisms.

4.9 The German delegation again drew attention to the fact that the regional comparison of nine areas in the North Sea showed that highest concentrations of OCS and HCB are found in dabs of the incineration site and that this was a very strong indication that incineration operations at that site were the source.

4.10 Several delegations suggested that either spatial trend studies or, particularly, a series of temporally-spaced measurements might provide useful additional insight into the question, especially since incineration had now been discontinued.

4.11 The German delegation noted that no further studies were planned by Germany.

Sewage disposal

4.12 The United States delegation described surveillance techniques for sewage sludge disposal at sea (LDC/SG 14/INF.2). Five separate surveillance techniques have been used as follows:

.1 a manifest system which reports on the sewage sludge from initial transfer into transport barges to final disposal at the 106 mile disposal site;

.2 a system of seals on valves on the transfer and transport barges that assures short dumping does not occur;

.3 independent ship riders that report such information as times, locations, and rates of disposal;

.4 an electronic Ocean Dumping Surveillance System (ODSS) that electronically reports the location and times of disposal operations; and

.5 an EPA observation of disposal operations during monitoring surveys aboard the EPA Ocean Survey Vessel "Peter W. Anderson".

These systems have been designed to assure that disposal operations meet permit conditions. The ODSS was noted to be a very effective system for deterrence of illegal disposal, although it has not yet met the original goal of reporting on 80% of missions.

4.13 The United States delegation further introduced its "Monitoring Plan for a Deepwater Sewage Sludge Dump Site" (LDC/SG 14/INF.3) summarizing the monitoring programme and available results of the potential impacts of sewage sludge disposal at the 106 mile disposal site off the coast of New Jersey. The Ocean Dumping Ban Act of 1988 requires a phase-out of sewage sludge (and industrial waste) by the end of 1991. In the interim, the EPA, NOAA and the U.S. Coast Guard were required to conduct monitoring to assure permit conditions are met and that the marine environment was not adversely affected. A key feature of the monitoring programme is a tiered approach in which four tiers of investigations are set forth. Tier 1 addresses characteristics of the sludge and the disposal operation; tier 2 addresses nearfield fate and short-term effects of the sludge within and in the vicinity of the site; tier 3 addresses farfield fate assessing the direction and extent of transport of the sludge beyond the site; and tier 4 addresses the long-term effects of sludge disposal at the site and beyond. Physical, chemical and biological impacts are being assessed. Twenty-three null hypotheses were set out in the plan, around which the specific monitoring assessments were designed. Preliminary data indicate that sludge was not reaching any shorelines, was transported in a south-eastern direction, and probably reached the Gulf Stream. Sediment traps have been placed in strategic locations, but data are not yet available on deposited materials. Similarly, results of monitoring of biological resources are not yet available.

4.14 The Group requested clarification on what specific tests were conducted in the specific tiers and expressed interest in future reports on the monitoring data as these become available.

United Kingdom dumpsites

4.15 The United Kingdom delegation presented information on monitoring activities conducted in recent years. The study "Monitoring and Surveillance of Non-Radioactive Contaminants in the Aquatic environment 1984-87" (LDC/SG 14/INF.6) included a principal section on investigations carried out at marine disposal sites. In addition, sections also deal with broader programmes on *inter alia* the chemical quality of fish and shellfish.

Biological effects tests

4.16 The report "Utility of Experimental Measures of Biological Effects for Monitoring Marine Sewage-Sludge Disposal Sites" (LDC/SG 14/INF.7) had been prepared by a sub-group within the United Kingdom Marine Pollution Monitoring and Management Group. A number of organizations in the United Kingdom, including government laboratories, research institutes and water utilities have been developing a wide range of biological effects tests as a means of assessing the impact of sewage sludge. The report identified a discrete group of tests which were considered suitable for routine application, and other tests where further development and standardization were required. Tests identified as suitable for routine application were supported by written methodologies. Quality control programmes are being implemented so that wider

application of the tests, nationally and perhaps internationally, would provide data that could be intercompared. The Scientific Group expressed interest in being kept informed of the standardization and intercalibration of test methods.

Antifouling paints

4.17 The German delegation in a paper "Effectivity and Necessity of Antifouling Paints on Pleasure Boats at Freshwater Sites" (LDC/SG 14/INF.11) described studies on the behaviour of four types of antifouling preparations and controls deployed at four freshwater sites in Germany. The types of antifouling preparations used were:

.1 inert surfaces and non-reactive primer coatings;

.2 toxic antifouling paints containing organotin, copper or thiocyanomethyl-mercapto-benzothiazol as active ingredients;

.3 toxic antifouling paints containing naturally-occurring toxins like saponine; and

.4 low adhesive coatings having physical (e.g. silicone), chemical (e.g. colophonium), or biological modes of action.

Glass plates were deployed as controls. The results showed that inert surfaces and non-reactive primer coatings suffered the heaviest fouling. Of the group of preparations based on artificial toxic agents the organotin-based paints were the most effective and copper-based the least effective. In general, the thickness of fouling was the least and mechanical cleaning efforts of surfaces were minimal. For all deployments these paints had maximum effectiveness after 3-4 months and significantly lower biomass fouling than the controls at that time. Antifouling preparations containing naturally occurring toxic agents showed no appreciable antifouling properties, with the saponine preparation showing effectiveness for 1-2 months only. Silicone coatings gave the best results of all the non-toxic antifouling preparations with larger organisms being sloughed off by shear and turbulence. When the thickness of the coating, the degree of fouling and the effort required to clean surfaces were considered, silicone coatings performed similarly to the toxic antifouling preparations.

4.18 The German delegation concluded that, in general, toxic antifouling paints showed only restricted effectiveness and the necessity for their use in freshwater environments was doubtful. Non-toxic antifouling paints appear to have suitably effective performance for use in freshwater environments. It was admitted that these results do not necessarily apply to marine waters and it was hoped that similar investigations could be conducted in the future in marine waters.

4.19 The German delegation then introduced the paper entitled "Risks for Surface Waters Caused by Tin-organic Compounds in Antifouling Paints" (LDC/SG 14/INF.12). This comprises a study of the incidence of tributyltin (TBT), dibutyltin (DBT) and monobutyltin (MBT) in various freshwater and saltwater areas of Germany, particularly in, and close to, marinas. Relatively large concentration ranges were found for all three compounds in freshwater and freshwater sediments with TBT values ranging up to about

1,000 ng/l in water. Median freshwater concentrations of TBT of the order of 25 ng/l and a higher median of about 150 ng/l were found for saltwater areas respectively. High accumulation factors up to 10^4 were determined in sediments. Bioconcentration factors, depending on the type of organisms, were between 10^3 and 10^5.

4.20 The Scientific Group received the above results with considerable interest. Concern was specifically expressed regarding the high levels of organotins in German waters which greatly exceed those known to cause adverse effects on aquatic organisms. It was noted that conditions may soon start to improve as a result of the imposed restrictions on the use of TBT antifouling preparations.

Annual report on permits issued

4.21 The Secretariat introduced the Draft Report on Permits Issued in 1988 (LDC/SG 14/WP.1) and reviewed the actions agreed to at the previous meeting of the Group, which included:

.1 the draft report should be sent to all Contracting Parties asking them for comments;

.2 the Secretariat should contact national focal points on dumping, preferably by telephone or telefax to remind them of outstanding contributions, as appropriate;

.3 the Secretariat through official channels should make an attempt to identify national focal points ("an appropriate authority or authorities" in accordance with Article VI(1)) of those Contracting Parties which have not yet submitted such information to the Secretariat; and

.4 information on disposal at sea published in the scientific literature or in the grey literature, should be used as a basis for approaching Contracting Parties with a view to generating official reports under the Convention.

The Secretariat informed the Group that in spite of the above efforts there was still a scarcity of data provided by Governments and that there was a need for renewed efforts to contact national focal points regarding outstanding contributions.

4.22 The Group agreed that each delegation should submit its comments on the Draft report on Permits Issued in 1988 (LDC/SG 14/WP1) by 31 May 1991 and that the Secretariat should send a corrected draft report to all Contracting Parties asking them for further comments.

4.23 The Secretariat was asked to explain some terms used and to check some data and expressions contained in the report with the originating national administrations. Some representatives promised to provide revised figures; others noted that data despatched to IMO were apparently not reflected in the report. The Secretariat promised to look into these matters and to contact the relevant counterparts, as appropriate, to ensure that a complete report would be generated.

4.24 During review of the draft report, several delegations drew attention to the need for the report to reflect the definition of industrial wastes as found in resolution LDC.43(13) on Phasing Out Sea Disposal of Industrial Waste. The issue of interpreting the definition of industrial wastes was at this stage left to respondents however it was proposed that further guidance for future reporting should be sought from the Consultative Meeting. The Scientific Group agreed to recommend to the Consultative Meeting that, at least on an interim basis, evidence that a waste complies with Resolution LDC.43(13) should be submitted as part of the dumping returns.

4.25 The observer from IAPH recalled the survey report prepared by his association on dredging activities in IAPH member states (LDC/SC 12/4/11). This report gave an account of dredging in 82 ports all over the world. IAPH would be ready to carry out again a joint survey with IMO. Noting the experience gained with the previous survey in 1989, the form for soliciting the necessary information may, however, need to be reviewed to better address the type of information needed under the London Dumping Convention.

4.26 The Secretariat thanked IAPH for its co-operation, confirmed that continuation of this work was of great interest and that a proposal for the form and nature of this work would be transmitted to the IAPH.

5 FIELD VERIFICATION OF LABORATORY TESTS

Discharges of oil contaminated cuttings and drilling muds

5.1 The Group was informed by the Netherlands' delegation of technical issues related to research undertaken in relation to discharges of oil contaminated cuttings from offshore installations on the Netherlands' section of the North Sea continental shelf: monitoring strategies, biological effect techniques, biological indicators, dose-effect relationships, and mesocosm studies.

5.2 Regarding biological effects from the discharge of oil contaminated cuttings, the Netherlands presented a summary of an overview report published by the Netherlands Institute for Sea Research (LDC/SG 14/5/1). From this long-term monitoring research study the following key results were derived. Seven types of effects were observed around three offshore drilling locations, at various levels of oil-contaminated sediments. The effects ranged from reduction in number of sensitive species to reduction in species richness. It was clearly shown that the number of effects increased with increasing oil concentration in the sediment. Integration of all results, describing qualitatively the observed effects on macrobenthic species at different oil concentrations in the sediments, shows that at concentrations:

.1 greater than 100 mg/kg (oil on cuttings dry weight): all defined effects may occur;
.2 10-100 mg/kg: at least a few effects may occur; and
.3 1-10 mg/kg: the number of species was reduced.

The lowest concentration at which adverse effects were observed ranged between 1-10 mg oil/kg dry weight, which is the NOEC-range value. The full report is available on request (NIOZ-report 1990-5).

5.3 In a second document by the Netherlands (LDC/SG 14/5) the Group was informed of the distribution of macrobenthic species sensitive to oil-based-mud (OBM). Seventeen macrobenthic species out of a total of about 40 species were found to be most sensitive for discharged OBM-cuttings. By combining this information with results from the 1986 ICES benthic survey, it was possible to produce separate maps of the distribution of each of the identified OBM-sensitive species. The results of this mapping exercise showed that OBM-sensitive macrobenthic species occur throughout the Netherlands' continental shelf. The highest number of such species per station (5-15) and the highest densities were found in one particular sedimentation area, the Oystergrounds. These finding may be explained by the fact that the total number of macrobenthic species per station in the Oystergrounds is also high (40-70) compared with the more sandy southern part of the Netherlands' continental shelf (20-40 species per station).

5.4 In a third document by the Netherlands (LDC/SG 14/5/3) the Group was informed of the short-term and long-term effects of discharged washed and unwashed oil-contaminated cuttings. The cuttings were tested in field and mesocosm studies on the Netherlands' continental shelf in 1985-1990. The results of the research around drilling locations where OBM-cuttings were discharged without pretreatment showed that:

.1 gradients of oil concentrations in sediments around drilling sites can be found over a distance of up to 2 km;

.2 adverse biological effects on macrobenthic species have occurred;

.3 there were long-term effects and no improvement could be seen five years after the drilling activities had ceased; and

.4 accumulation of oil in mussels had taken place.

5.5 Based on these adverse effects, the Netherlands decided in 1987 to introduce cuttings cleaning to decrease the oil content of the discharged cuttings to 100 mg oil/kg dry weight. It was expected that this procedure would lead to a diminishing of the observed effects. Results, however, showed that discharged oil was more widely distributed because of the smaller particle sizes of the washed cuttings. Furthermore, the oil content in the sediment was still high enough that adverse effects could be expected.

5.6 The Netherlands' delegation further informed the Group of some results obtained in mesocosms (boxcosms) on dose-effect relationships using natural sediments and test species. In these well-defined experimental set-ups field situations are simulated, focussing in particular on long-term effects. The Netherlands considers such set-ups to be excellent tools to test possible environmental impacts prior to use.

5.7 In a fourth document by the Netherlands (LDC/SG 14/5/2) the Group was informed of the development of a toxicity test with the sediment reworking species Echinocardium cordatum. This test forms part of an intercalibration exercise, in which various test species are used and compared in the context of the work carried out under the Paris Convention. A full report on the test results with Echinocardium cordatum is expected to be published in 1992.

5.8 In the ensuing discussion one delegation asked as to whether the analysed sediment samples had been normalized. The Netherlands replied that this was not the case. Instead, oil was measured in the total fraction and the sediment was characterized to grain size distribution forming the basis to gradient monitoring and temporal trend analysis at those locations. With respect to the analysis of oil concentrations, the Netherlands' delegation stated that the type of oil was also characterized using Gaschromatography with Mass Spetrometry (GC/MS) analysis. On the question of quality control, the Netherlands' delegation explained that the protocol for the toxicity test with the sediment reworking species is fully described in the paper that will appear in early 1992. This protocol will be used in the Paris Commission's intercalibration test for offshore chemicals and drilling fluids.

5.9 The observer from the E & P Forum reminded the Group that discharges from offshore platforms directly related to oil exploration and exploitation were not covered by the London Dumping Convention. He expressed his view that the above issues were beyond the mandate of the Scientific Group and further pointed out that the papers presented to the Group reflected only a small part of a comprehensive literature on biological effects related to discharges from oil platforms into the sea.

5.10 The delegation of Nauru expressed the view that biological effects presented at this meeting in relation to discharges from offshore oil and gas activities warranted particular consideration with regard to the inclusion of control measures of such discharges under the regime of the London Dumping Convention. Nauru reminded the Group of a previously made similar proposal to consider seepage of oil from abandoned capped oil wells on the seabottom as a future item of attention for the Scientific Group and the Consultative Meeting. In reply the Chairman mentioned that any delegation might bring forward such a proposal to the Consultative Meeting.

Long-term consequences of low-level marine contamination

5.11 The Scientific Group took note of a study published by GESAMP in 1989 on "Long-term Consequences of Low-Level Marine Contamination: an analytical approach (GESAMP Rep.Stud. No.40; LDC/SG 14/INF.15). The analytical approach outlined in the study was based on four case studies representing different classes of contaminants: nutrients, chlorinated hydrocarbons, tributyltin and hydrocarbons. GESAMP in publishing the study had pointed out that it is its aim to stimulate a wider audience to consider other classes that may support or contradict the hypothesis that low-level contamination or long-term exposure to accumulated residues result in measurable adverse consequences for biological components of the marine environment.

5.12 Several members of the Scientific Group undertook to study the report and to provide their comments to the Secretariat.

Review of potentially harmful substances: choosing priority organochlorines for marine hazard assessment

5.13 GESAMP Report and Studies No.42 (LDC/SG 14/INF.16) on the above subject provides a methodology for a first step towards the identification of those chlorinated hydrocarbons which present the greatest potential hazard to marine organisms, based on criteria such as the octanol/water partition coefficient, persistence and toxicity.

5.14 The observer from Greenpeace drew attention to the large list of organochlorine substances annexed to the report for which no or insufficient data were available to carry out even a preliminary assessment; the lack of information would make it very difficult to assess their potential impact on the marine environment and to evaluate the results of monitoring or even to include them in monitoring programmes.

5.15 The observer from E & P Forum informed the Group of a database being established by the offshore industry on chemicals used in offshore exploration and exploitation.

6 HAZARD ASSESSMENT PROCEDURES

6.1 The United States delegation summarized a manual that sets out testing procedures for the evaluation of dredged material to assess their acceptability for disposal at sea (LDC/SG 14/6). The testing manual (commonly known as the Green Book) specified a tiered testing process, recommended specific chemical and biological tests to characterize potential water column and benthic impacts, and sets out decision points on which the acceptability of dredged material for disposal at sea can be judged. The tiered testing provides for making decisions without having to obtain more data than are necessary. This manual is an update of The 1977 Green Book and provides for the most current accepted chemical analyses, toxicity and bioaccumulation testing. The manual is to be published in April 1991 in a loose-leaf format to facilitate incorporation of new methods and decision points. The United States delegation noted that when chronic biological methods were available to assess chronic impacts these would be incorporated into the document; similarly, when sediment quality criteria were available, these also would be incorporated.

6.2 A number of technical questions and criticisms were raised by the Group and were in turn responded to by the United States delegation. Overall, the Group welcomed the information on the manual, noting that the scientific basis of the manual seemed well established in representing the currently available techniques for assessing chemical and biological impacts of dredged material disposal.

7 WASTE MANAGEMENT ISSUES

7.1 Comparative assessments of land-based and sea-based disposal options

7.1.1 The Netherlands described an action plan to terminate discharges of oil-contaminated cuttings from drilling platforms (LDC/SG 14/7). Although such practices were not covered by the London Dumping Convention, the action plan provided a good example of a project designed to identify land-based alternatives to an input of industrial waste to the marine environment.

7.1.2 Investigations were carried out to determine whether a requirement under international legislation to limit the oil content of cuttings to 100g/kg dry weight was sufficient to prevent harm to marine organisms. As described in paragraph 5.2 above, cuttings for which the oil content was within the specified limit still caused substantial environmental impacts. Accordingly, additional measures were investigated including treatment of cuttings at the drill site and land-based processing. Since incineration of

the contaminated cuttings on land has proved both feasible and effective, the Netherlands has decided to terminate discharges to sea of these materials in certain sensitive areas for 1991, and in all areas by 1994.

7.1.3 The United States delegation described an initiative by the US Army Corps of Engineers to develop a Long-term Management Strategy (LTMS) for navigation dredging projects undertaken nationwide (LDC/SG 14/INF.4). Since these projects involve the dredging of 500 million tonnes of material annually, and are subject to numerous Federal and State regulations, an LTMS approach was considered essential.

7.1.4 The LTMS comprises a 5-phase conceptual framework (i.e. evaluation of management options, formulation of alternatives, analysis of alternatives, LTMS implementation and periodic review). Experience gained from previous operations is systematically incorporated into the strategy. The LTMS must consider all forseeable dredging for the anticipated project life; for new projects, this is taken to be a minimum of 50 years. The strategy must address structural and non-structural measures that would minimize the need for dredging and incorporate full consideration of all management options. Implementation of an LTMS requires a multi-disciplinary team of specialists and should involve all relevant agencies and environmental organizations, local sponsors, public participation, technology transfer, education and public access to information.

7.2 Mitigation of the impact of dumping wastes at sea

No papers were submitted under this sub-item of the agenda and the Scientific Group held no discussions directly related to this topic.

7.3 Source reduction and recycling of wastes

7.3.1 The Netherlands described the Rhine Research Project (LDC/SG 14/7/1) in which the Rotterdam harbour authorities are seeking to identify sources of contaminants to the Rhine River which lead to heavy deposition of contaminants in the harbour sediments downstream. This project illustrates one approach to the question posed at previous scientific and technical working group meetings: "What can harbour authorities do to counteract activities that lead to sediment contamination and increased costs for dredged material disposal?". The Rotterdam harbour authorities are anxious to avoid the need to construct another containment facility (Slufter) when the present facility is filled in 2002. To date, the Project has successfully identified the sources of various harmful substances discharged from three States bordering the Rhine and has established a strong legal position to enforce reductions of the inputs concerned. In its efforts to pursue these reductions the harbour authorities receive the full support of the Netherlands' Government. However, there remains some uncertainty as to whether measures can be taken in time to meet the 2002 deadline.

7.4 Cleaner technologies (case studies)

7.4.1 The German delegation summarized a number of recent cases in which improved technology was successful in circumventing the need to dispose of industrial wastes at sea (LDC/SG 14/INF.13). The dumping in the North Sea of waste acids from the titanium dioxide industry in Germany was terminated at the end of 1989. Since then about 1.3 million tonnes of diluted acid per year

have been utilized in a closed-loop titanium dioxide production system. Similarly, the need to incinerate wastes from German industries by means of incineration vessels has been overcome mainly through the use of waste avoidance and recycling techniques and not by transferring the waste to land-based incineration plants. These examples illustrated the concept of clean technologies and provided a good incentive for further projects of this kind.

7.5 Guidelines, manuals and bibliographies

7.5.1 The Secretariat informed the Group of its on-going work in compiling bibliographies. It was recalled that the Scientific Group, at its thirteenth meeting, had reviewed a preliminary Bibliography on Effects of Dredging in the Marine Environment (LDC/SG 13/WP.2) and that this was to be circulated for comments to some members of the Group (France, the Netherlands and the United States). The Secretary then informed the Group of the results of informal consultations with representatives from several Contracting Parties and observer organizations during this meeting. Alternative ways were considered for providing potential user groups with access to literature on dredging operations that would facilitate the preparation of synthesis documents on specific topics.

7.5.2 As a result it was suggested that one or more of the following types of information could be compiled by the Secretariat, possibly in collaboration with other interested parties:

- a periodic list of references to grey literature received from Contracting Parties and observer organizations;
- a bibliographical listing covering a wide range of relevant subject fields related to the management of dredging activities and the environmental impacts of dredged material disposal;
- a compilation of abstracts obtained from abstracting services (ASFA, Chemical Abstracts) and through co-operation with, inter alia, PIANC, CEDA; and
- syntheses and compilations critically reviewing recent literature and presenting the state of the art;

7.5.3 During the subsequent discussion it was recognized that the provision of bibliographic services on a continuing basis was a time-consuming task. Ways should therefore be explored to take full advantage of similar services, including computerized bibliographic databases, available to members of technical organizations such as CEDA, IAPH and the International Association of Dredging Corporations (IADC).

7.5.4 The preparation of overviews on dredging was an important aspect of the Scientific Group's work and this required access to a comprehensive literature source. The representative of PIANC informed the Group that his organization had considerable experience in preparing overviews on particular aspects of dredging and undertook to explore the possibilities of contributing to such work.

7.5.5 The representative of CEDA felt that although various databases existed in technical organizations these did not have a global scope. CEDA is giving high priority to educational and communications aspects in its work and literature reviews are an integral part of such activities. His organization would therefore be prepared to assist in furthering the work of the Secretariat in this field. It was also noted that IADC would shortly publish the 3rd edition of its booklet "Dredging for Development" and the representative of the IAPH expected that copies could be made available for distribution to the Group if so requested. Further, the World Bank had recently published a report entitled "Environmental Considerations for Port and Harbor Developments" that contained information relevant to the Group's work.

7.5.6 The Group requested the Secretariat to approach relevant technical organizations such as CEDA, PIANC, and IAPH and interested Contracting Parties with a view to exploring further possibilities in this field and the potential for co-operation, bearing in mind the need to avoid duplication of work, and to minimize demands on the Secretariat. The progress of this work would be discussed at the fifteenth meeting of the Scientific Group. In the meantime, the Secretariat was requested to prepare a list of grey literature presently in IMO files.

8 CO-OPERATION WITH OTHER ORGANIZATIONS

8.1 The Group was informed of activities carried out by other institutions, commissions and organizations, as well as of symposia, seminars and workshops planned and co-sponsored by the Secretariat.

Preparatory Committee for the 1992 United Nations Conference on Environment and Development (UNCED)

8.2 The Secretariat informed the Group of activities carried out in connection with a decision made by the Preparatory Committee at its first meeting (decision 1/20, LDC 13/INF.16) on the "protection of oceans, all kinds of seas including enclosed and semi-enclosed seas, coastal areas and the protection, rational use and development of their living resources". The various recommendations had been regrouped by the UNCED Secretariat into nine thematic sections as follows:

.1 mechanisms for capacity-building;
.2 coastal areas development and enclosed seas;
.3 marine pollution control strategies;
.4 living marine resources;
.5 impacts of climate change;
.6 international institutions and legal instruments;
.7 the London Dumping Convention;
.8 global ocean observing system; and
.9 protection of the marine environment from land-based sources of pollution.

8.3 Contributions to a number of the sections listed above have been made by IMO. The Office for the London Dumping Convention has also submitted to the Preparatory Committee a comprehensive report reflecting the basic requirements, current status and ongoing work of the London Dumping Convention, including resolution LDC.40(13) of the Consultative Meeting which

contained a number of recommendations addressing the UNCED Preparatory Committee. The material submitted by IMO and other UN agencies, inter-governmental organizations and non-governmental organizations had been summarized by the UNCED Secretariat in a progress report for consideration at the second session of the Preparatory Committee (Geneva, March/April 1991).

8.4 The UNCED Preparatory Committee had accepted the recommendations of the Consultative Meeting; however, the debate is still ongoing and will be continued at the third session of the Preparatory Committee in August 1991. At that session more comprehensive material on most of the above thematic sections will be made available by the UNCED Secretariat. This will be prepared in co-operation with the relevant UN agencies and other institutions.

8.5 With reference to the protection of the marine environment from land-based sources of pollution (paragraph 8.2.9 above) the Canadian delegation informed the Group that an Intergovernmental Meeting of Experts will be convened by Canada at Halifax, Nova Scotia, from 6 to 10 May 1991 (LDC/SG 14/8) in co-operation with the UNCED Secretariat, the United Nations Environment Programme (UNEP), the Intergovernmental Oceanographic Commission (IOC) of Unesco, and the Office for Ocean Affairs and the Law of the Sea of the UN Secretariat (OALAS). The meeting include a combination of plenary and working group sessions with the following objectives:

.1 development of principles for the protection of the marine environment from land-based sources of pollution;

.2 study of the various scientific, social, economic and legal elements to be addressed if there is to be a concerted global attack on the problem; and

.3 development of a recommended strategy and action plan for consideration at Preparatory Committee III.

8.6 The Canadian delegation noted that the strategy to be developed as mentioned above could deal with broad principles and concepts as those in the United Nations Law of the Sea and address a number of action items or obligations.

GESAMP

8.7 The Scientific Group was informed of the results, statements and decisions made by GESAMP at its twenty-first session (18-22 February 1991) (LDC/SG 14/8/1).

8.8 GESAMP in its annual statement on the state of the marine environment emphasized that marine pollution is primarily linked to coastal development. In its view the most serious problems are those associated with inadequately controlled coastal development and intensive human settlement of the coast. Of the problems and issues identified by GESAMP in the coastal zone as being important, comments were made by delegations on:

- enhanced nutrient inputs and their linkage to algal blooms;

- increased extents of anoxia in poorly flushed coastal areas;

- the increase of oil releases to the marine environment from land-based sources which supersede the amounts introduced by shipping;

- cancer risks to humans due to the consumption of seafood containing carcinogenic substances.

8.9 Several delegations and observers also questioned the statement made by GESAMP that the open sea is still relatively clean and the conclusion that coastal development is the most serious problem related to pollution of the ocean. In the view of these delegations this statement was not supported by the material compiled in the volumes annexed to GESAMP's report on the State of the Marine Environment (GESAMP Rep. Stud. No. 39, 1990). In particular, certain contaminants, such as PCBs, are more concentrated in open ocean surface waters than in coastal waters. In addition, atmospheric and riverine imputs are at least as serious as sources of marine pollution as is coastal development. However it was recognized that the effects of coastal development of concern to GESAMP include the effects of contaminants mobilized from such development activities via water courses and the atmosphere.

8.10 The Scientific Group further noted the conclusions and summaries of several reports adopted by GESAMP for publication as follows:

- Global Strategies for Marine Environmental Protection;
- Carcinogens: their Significance as Marine Pollutants;
- Reducing Environmental Impacts of Coastal Aquaculture; and
- Global Changes and the Air/Sea Exchange of Chemicals.

IOC-IMO-UNEP Group of Experts on Effects of Pollutants (GEEP)

8.11 The Scientific Group took note of the report of the fifth session of GEEP (17-20 April 1989) submitted by the Intergovernmental Oceanographic Commission (IOC) (LDC/SG 14/INF.8). The report reviewed the results of the IOC/GEEP International Workshop on the Biological Effects of Pollutants (Bermuda, 10 September to 20 October 1988) and discussed in detail the then planned IOC-ICES Workshop on Biological Effects of Contaminants (Bremerhaven, 12-20 March 1990). Advice to IMO was also provided in the report concerning the identification of particularly vulnerable sea areas.

8.12 Preliminary results of the above mentioned Workshop on Biological Effects of Contaminants in the North Sea (Bremerhaven Workshop) were introduced (LDC/SG 14/INF.9). The Scientific Group noted with particular interest that Benthic Trial-Analyses used in North America comprised of benthic community data, sediment bioassay data and sediment chemistry have been carried out for the first time in European waters and will allow the trial approach to be tested in the North Sea.

Oslo Commission

8.13 The representative of the Oslo Commission informed the Scientific Group that at its 1991 meeting the Standing Advisory Committee for Scientific Advice (SACSA) had drafted Oslo Commission Guidelines for the Disposal of Offshore Installations at Sea and Oslo Commission Guidelines for the Management of Dredged Material. Both these draft guidelines would be submitted to the 1991 meeting of the Oslo Commission for adoption.

Seminars, symposia and workshops

8.14 The Secretariat informed the Group that the first International Ocean Pollution Symposium (IOPS) would be convened in Mayaguez, Puerto Rico, from 28 April to 2 May 1991. The objective of the IOPS series is to provide a forum for exchange of ideas and information among scientists involved in marine pollution and ocean disposal research. The symposium is the renamed sequel to the International Ocean Disposal Symposia; the change in name reflects a broadening in the scope of topics to be covered by the series.

8.15 The Secretariat noted that, as for previous symposia in this series, IMO through its Global Programme for the Protection of the Marine Environment, was making resources available for travel grants for experts from developing countries. The Secretariat noted that over twenty applications had been received, but unfortunately, resources were only available to fund seven grants.

8.16 The Secretariat informed the Group of the Regional Workshop on Hazardous Waste Management Policies and Strategies for East African Countries to be held in Mauritius from 3 to 7 June 1991. The Workshop is a collaborative exercise between IMO, the Industry and Environment Office (IEO) of the United Nations Environment Programme (UNEP) and the International Solid Waste and Public Cleansing Association.

8.17 The purpose of this Workshop is to improve the ability of countries to assess and manage wastes, whether locally generated or imported. The Workshop will address Government officials and industry decision makers with a view to presenting the most appropriate policies and procedures by which wastes can be safely managed. The following topics will be addressed at the Workshop:

- Review of hazardous waste in the region
- International agreements
- Management principles
- Technology for incineration, treatment and disposal
- Infrastructure, technical and support services
- Waste avoidance, reduction, recycling (both technical and administrative measures will be covered)
- Control policy, regulations and administration
- Hazardous waste control strategies, practical first steps, interim measures.

8.18 The Group's attention was drawn to the need for adequate financial support for the work and the waste management surveys relating to phasing out sea disposal of industrial waste and incineration at sea. Delegations were encouraged to provide the needed funding and the Secretariat agreed to prepare a more detailed work plan outlining the financial support required.

9 FUTURE WORK PROGRAMME

9.1 The Group reviewed its three year work programme (LDC 13/15, Annex 5) and discussed changes and additions for consideration by the Consultative Meeting as appropriate. A list of items established for inclusion in the agendas of the fifteenth, sixteenth and seventeenth meetings of the Group is shown in Annex 3. This includes the relative priorities associated with each item, the discussion dates, and completion dates as appropriate.

9.2 The Group considered in detail the agenda of its fifteenth meeting to be held in 1992. The Group noted the extremely heavy agenda for its fifteenth meeting and the need to complete action on several agenda items. The Group recommended that discussion on topics related to the position of substances in the Annexes be deferred until its sixteenth meeting. The Group also felt that issues on "field verification of laboratory tests" should be included under the agenda item on monitoring.

9.3 The Group anticipated that a fourth meeting of the Annex Working Group will be necessary in early 1992 to address submissions on the draft New Assessment Procedure, as endorsed in principle by the Thirteenth Consultative Meeting. The ad hoc Group of Experts on the Annexes to the Convention will report to the fifteenth meeting of the Scientific Group.

9.4 The Group discussed in general terms long range plans for the Scientific Group and the need to thoroughly address technical issues relating to the management and disposal of municipal sewage. The future work programme of the Scientific Group reflects this recommendation. Moreover, Annex 2 (see paragraph 3.18 above) describes general management and disposal issues and identifies the need for and nature of the input from Contracting Parties and relevant organizations on matters related to sewage management.

10 ANY OTHER BUSINESS

Expression of appreciation

10.1 The Chairman of the Scientific Group on Dumping announced with regret that this meeting would be the last for Col. Herbert R. Haar, Jr., in his official capacity as IAPH Observer, and expressed the sentiments of the Group that the IAPH delegation under Col. Haar's leadership had made substantial contributions to the Group's understanding of the chemical nature, impact and mitigating properties of dredged material. He had also given strong support to the formulation of the "Guidelines for the Application of the Annexes to the Disposal of Dredged Material", and had cooperated in the joint effort of IMO and IAPH to produce a report on the production and disposal of dredged material on a worldwide basis. The Group wished Col. Herbert R. Haar, Jr. good health and a long and happy retirement.

Other matters

10.2 No documents or submissions were received for discussion under this item.

11 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN

Mr. R. Engler (United States) and Mr. R. Coenen (Netherlands) were unanimously re-elected as Chairman and Vice-Chairman of the Scientific Group on Dumping.

12 CONSIDERATION AND ADOPTION OF THE REPORT

The report of the fourteenth meeting of the Scientific Group on Dumping was adopted by the Group on 5 April 1991.

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ANNEX 1

AGENDA OF THE FOURTEENTH MEETING OF THE
SCIENTIFIC GROUP ON DUMPING
(2-5 April 1991)

1 Adoption of the Agenda

LDC/SG 14/1	-	Provisional agenda
LDC/SG 14/1/1	-	Annotated agenda and draft timetable

2 Draft New Assessment Procedure: review of comments

LDC/SG 14/2	-	IAPH (Matters relating to the disposal at sea of dredged material)

3 Beneficial uses and alternative disposal of sewage sludge

LDC/SG 14/3	-	Secretariat (The situation in the Oslo Convention Area)
LDC/SG 14/INF.5	-	United States (Technical reports on beneficial uses and alternative disposal methods)
LDC/SG 14/INF.10	-	Germany (Alternative methods of sewage sludge disposal)
LDC/SG 14/INF.14	-	Denmark (Danish sludge disposal practices)

4 Monitoring and disposal activities at sea

LDC/SG 14/4	-	Germany (Macrobenthos inside and outside a TiO_2 acid waste discharge area near Helogland in the North Sea)
LDC/SG 14/4/1	-	Netherlands (On the occurrence of liver tumours in flatfish in Dutch waters)
LDC/SG 14/4/2	-	Netherlands (Fish diseases monitoring in relation to chemical contamination; results of some monitoring programmes)
LDC/SG 14/4/3	-	Germany (Organochlorine Compounds in Marine Organisms from the International North Sea Incineration Area)
LDC/SG 14/INF.2	-	United States (Surveillance techniques for sewage sludge dumping activities)
LDC/SG 14/INF.3	-	United States (Monitoring plan for a deepwater sewage sludge dump site)
LDC/SG 14/INF.6	-	United Kingdom (Monitoring and Surveillance of Non-Radioactive Contaminants in the Aquatic Environment, 1984-1987)
LDC/SG 14/INF.7	-	United Kingdom (Utility of experimental measures of biological effects for monitoring marine sewage-sludge disposal sites)

LDC/SG 14/INF.11	-	Germany (Effectivity and necessity of antifouling paints on pleasure boats at freshwater sites)
LDC/SG 14/INF.12	-	Germany (Risks for surface waters caused by tin-organic compounds in antifouling paints)
LDC/SG 14/WP.1	-	Secretariat Draft Report on Permits Issued in 1988

5 Field verification of laboratory tests

LDC/SG 14/5	-	Netherlands (Distribution of OBM* - sensitive macrobenthic species in the North sea)
LDC/SG 14/5/1	-	Netherlands (Biological effects of discharged oil-contaminated drill cuttings in the North Sea)
LDC/SG 14/5/2	-	Netherlands (Development of a toxicity test with the sediment reworking species Echinocardium cordatum)
LDC/SG 14/5/3	-	Netherlands (Short and long-term effects of discharged OBM cuttings, with and without previous washing, tested in field and mesocosm studies on the Netherland's continental shelf, 1985-1990)
LDC/SG 14/5/4	-	Netherlands (Monitoring macrozoobentos on the Netherlands' continental shelf)
LDC/SG 14/INF.15	-	Secretariat (GESAMP Reports and Studies No.40)
LDC/SG 14/INF.16	-	Secretariat (GESAMP Reports and Studies No.42)

6 Hazard assessment procedures

LDC/SG 14/6	-	United States (Testing procedures for the evaluation of dredged material)

7 Waste management issues

LDC/SG 14/7	-	Netherlands (Action plan for the Netherlands for termination of discharges of oil-contaminated cuttings at sea)
LDC/SG 14/7/1	-	Netherlands (The policy of the Rotterdam Harbour in reducing waste discharges at source)
LDC/SG 14/INF.4	-	United States (Long term management strategy for dredged material)
LDC/SG 14/INF.13	-	Germany (Industrial Waste Management: Case STudies for Clean Technologies)

8 Co-operation with other organizations

LDC/SG 14/8	-	Canada (Intergovernmental meeting of experts on land-based sources or marine pollution)

	LDC/SG 14/8/1	-	Secretariat (IMO/FAO/Unesco/WMO/WHO/IAEA/ UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP))
	LDC/SG 14/INF.8	-	IOC (IOC-UNEP-IMO Group of Experts on Effects of Pollutants)
	LDC/SG 14/INF.9	-	Secretariat (ICES/IOC Workshop on the Biological Effects of Contaminants in the North Sea)
9	Future work programme	-	No document submitted
10	Any other business	-	No document submitted
11	Election of Chairman and Vice-Chairman	-	No document submitted
12	Consideration and adoption of report		
	LDC/SG 14/12	-	Report
	LDC/SG 14/INF.1	-	List of participants
	LDC/SG 14/WP.2	-	Draft report

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ANNEX 2

MANAGEMENT AND DISPOSAL OF MUNICIPAL SEWAGE

Sewage is continuously generated in amounts directly related to the size and socio-economic conditions of the human population. It consists of a rich organic matrix which, although potentially useful as a nutrient source, may be harmful to the environment and human health particularly in the absence of management approaches that provide for suitable treatment and disposal. Sewage management is therefore a worldwide problem. While there exists a range of treatment and disposal technologies, none of these are universally applicable. Many of the options available involve part or all of the sewage entering the marine environment. Where the degree of treatment or location of the input has not been adequately assessed or controlled, considerable damage may be caused to coastal environments, amenities and resources. The recent report on "The State of the Marine Environment" (GESAMP 1990) has emphasized that degradation of coastal environments resulting from mismanagement of municipal sewage is now a major concern in many of the more populated regions of the world.

The London Dumping Convention regulates the use of one of the many techniques for disposal of sewage - namely, the dumping of sewage sludge at sea. Clearly the role of this technique can be properly assessed only in the context of an overall assessment of sewage management, its needs and possibilities, on a worldwide basis.

The Thirteenth Consultative Meeting agreed to increase emphasis on matters dealing with waste management issues, clean technology, case studies and source reduction applicable to wastes and waste categories disposed of at sea. It was decided to place special emphasis on the beneficial uses and alternative options for the disposal of sewage sludge during the fourteenth meeting of the Scientific Group on Dumping. Four papers on this topic were submitted in response to a request to Contracting Parties to provide relevant information, particularly in relation to reduction of contaminants at source and guidelines for identifying and implementing alternatives to sea disposal.

Having considered these documents, the conclusion is inescapable that a variety of alternative options for the use or disposal of sewage sludge exists. The point at issue is the comparative advantages/disadvantages of these options in environmental, technical, social and political terms. Clearly, options that offer net benefits from the utilization of sewage and sewage sludge are preferred over those that cause net adverse effects. The properties of sewage that offer potential benefits are primarily nutrient and carbon content; properties that pose hazards are microbiological, nutrient, trace metal and synthetic chemical content.

In designing its study the Scientific Group identified the necessity for comprehensive information from Contracting Parties, particularly of developing countries, and relevant organizations, on matters related to sewage management including the following:

- existing and future trends in the collection and treatment of sewage;
- the use of municipal waste water collection and treatment systems for combined or separate management of effluent from domestic (including urban run-off) and industrial sources;
- the availability of pretreatment programmes and techniques for reduction of toxic compounds from industrial discharges prior to discharge into municipal collection systems;
- consideration of disposal requirements for liquid and solid phases arising from sludge production and disposal, such as treated effluent as well as dewatering and incineration residues;
- the availability and sustainability of productive uses of sewage sludge such as land-spreading, composting, etc.;
- the implications of population density, land-use, variation in climate and socio-economic factors for the selection of sewage management technologies at local levels;
- the relative environmental implications of land-based and sea-based disposal methods taking into account the relative contributions to nutrient fluxes and the carbon cycle;
- the full economic implications of alternatives including capital investment, energy use/generation, transport, personnel, space/resource utilization and management, including monitoring costs;
- the composition and characteristics (e.g. toxic substances, pathogens) of sewage sludge as they relate to the availability of certain disposal techniques, such as land spreading; and
- the nature, environmental and human health implications of contaminants of non-domestic origin contained in sewage.

The role of sea disposal can be properly assessed only when comprehensive information has been compiled and subjected to detailed analysis. This will require the collaboration of relevant international organizations and, in particular, the full participation of all Contracting Parties to the Convention. The experiences and information available from developing countries is essential for this evaluation.

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ANNEX 3

FUTURE WORK PROGRAMME OF THE SCIENTIFIC GROUP ON DUMPING
(fifteenth, sixteenth and seventeenth meetings)

		Meetings 1992 15th	1993 16th	1994 17th	Target Completion Date
1	Considerations of reports of the Annex Working Group	XX*			1992
2	Position of substances inthe Annexes		X		Continuous
3	Monitoring and disposal activities at sea: evaluation of dumping and monitoring reports and field verification activities; Monitoring guidance	X	X X	X	Continuous
4	Matters related to icineration at sea and phasing out sea disposal of industrial wastes	XX			1992
5	Waste management issues: comparative assessments; mitigation of the impace of dumping; source reduction, recycling and cleaner technologies (case studies); guidelines, manuals, bibliobraphies	X	XX	X	Continuous
6	Beneficial uses and alternative disposal of dredged material	X	X		
7	Review and assessment of Dredged Material Guidelines	X	XX	XX	1994
8	Hazard assessment procedures		X	X	Continuous
9	Management and disposal of municipal sewage	X	XX	XX	1996
10	Sea disposal of offshore installations and structures	X			1992
11	Co-operation and information exchange	X	X	X	Continuous

* XX denotes a higher level of presentation and debate