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ELEVENTH CONSULTATIVE MEETING OF CONTRACTING PARTIES TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER
3-7 October 1988
Agenda item 14

REPORT OF THE ELEVENTH CONSULTATIVE MEETING

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ANNEXES

1 INTRODUCTION

1.1 The Eleventh Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, convened in accordance with article XIV(3)(a) of the Convention, was held at IMO Headquarters, London, from 3 to 7 October 1988 under the chairmanship of Mr. G. L. Holland (Canada). Ms. S. Nurmi (Finland) and Vice-Admiral H. A. da Silva Horta (Portugal) were Vice-Chairmen.

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

ARGENTINA
AUSTRALIA
BELGIUM
BRAZIL
CANADA
CHILE
CHINA
DENMARK
FINLAND
FRANCE
GERMANY, FEDERAL REPUBLIC OF
GREECE
ICELAND
IRELAND
JAPAN
MEXICO
MOROCCO
NAURU
NETHERLANDS
NEW ZEALAND
NORWAY
PANAMA
PAPUA NEW GUINEA
PHILIPPINES
POLAND
PORTUGAL
SOLOMON ISLANDS
SOUTH AFRICA
SPAIN
SWEDEN
SWITZERLAND
UNITED KINGDOM
UNITED STATES
USSR
YUGOSLAVIA

1.3 Representatives from the following Associate Member of IMO attended the Meeting:

HONG KONG

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

CYPRUS
ECUADOR
LIBERIA

1.5 Representatives from the following United Nations Organization attended the Meeting:

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

1.6 Observers from the following intergovernmental organizations attended the Meeting:

ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT/NUCLEAR ENERGY AGENCY (OECD/NEA)
COMMISSION OF THE EUROPEAN COMMUNITIES (EEC)
OSLO COMMISSION AND PARIS COMMISSION
PERMANENT COMMISSION FOR THE SOUTH PACIFIC (CPPS)

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

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
GREENPEACE INTERNATIONAL
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN)
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES (PIANC)
ASSOCIATION OF MARITIME INCINERATORS (AMI)
EUROPEAN ATOMIC FORUM (FORATOM)
OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P FORUM)
ADVISORY COMMITTEE ON POLLUTION OF THE SEA (ACOPS)

Opening of the meeting

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

1.9 The Chairman expressed his thanks, on behalf of all Contracting Parties to the London Dumping Convention, for the support provided by the International Maritime Organization (IMO) to the work of the Consultative Meetings. He was confident that the fruitful co-operation between IMO, in its capacity as the Secretariat of the London Dumping Convention, and the Contracting Parties to the Convention would continue into the foreseeable future.

Address of welcome

1.10 In his welcoming address Mr. K. Voskresensky, Director of the Marine Environment Division of the International Maritime Organization, speaking on behalf of the Secretary-General of the International Maritime Organization, drew attention to the increasing recognition accorded to the London Dumping Convention as the only global Convention regulating waste disposal at sea within a general waste management framework. Indeed, the decision of the fourteenth extraordinary session of the IMO Council to provide interpretation and translation services for the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea during the present biennium was taken within the context of a widely held appreciation for the important work of the London Dumping Convention.

1.11 In recalling the previous difficulties encountered in providing an appropriate level of Secretariat support to the London Dumping Convention because of the "zero growth" policies of the United Nations system, Mr. Voskresensky conveyed the Secretary-General's gratitude to the Canadian Government for its secondment of a senior technical officer to the section of the IMO Secretariat dealing with the London Dumping Convention.

1.12 In commenting upon developments in a number of areas during the two-year intersessional period, Mr. Voskresensky noted that the Scientific Group on Dumping had met twice and had made good progress in refining a number of implementation guidelines adopted by previous Consultative Meetings. A meeting of experts on incineration at sea had been convened jointly with the Oslo Commission, the outcome of which would be of utmost importance to the present meeting when considering "incineration at sea" as a future waste disposal option. The Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea (IGPRAD) had met twice; the ad hoc Group of Legal Experts on Dumping had met once; and expert groups had been convened to consider the possible restructuring of the Annexes to the London Dumping Convention and the risks of spillages from incineration vessels, respectively.

1.13 Information was also given on the considerable efforts being made to provide advice and assistance to developing countries with respect to the

effective implementation of the London Dumping Convention. In this regard two successful regional seminars on the control of waste disposal at sea had been organized in Mexico City and Bangkok, with financial support from the IMO/SIDA Programme for the Protection of the Marine Environment and the United Nations Environment Programme (UNEP).

Adoption of the agenda

1.14 The agenda for the meeting, as adopted, is shown at annex 1. This includes, under each agenda item, a list of documents prepared for consideration at this Meeting. The Meeting also agreed on a timetable and work schedule for the Meeting (LDC 11/1/2, annex 2).

Participation of non-governmental organizations

1.15 The Chairman informed the Consultative Meeting that, in addition to the international organizations which the Tenth Consultative Meeting had decided to invite, the Secretariat, after consultation with the Chairman and the Vice-Chairmen, had invited a further two international organizations, viz the Permanent Commission for the South Pacific (CPPS) - an intergovernmental organization - and the Advisory Committee on Pollution of the Sea (ACOPS) - a non-governmental organization. In noting that the invitation to ACOPS had been issued on a provisional basis subject to confirmation by the Consultative Meeting, the Meeting agreed that ACOPS might attend the present Meeting.

1.16 The Meeting recalled that the Tenth Consultative Meeting had requested its Chairman to review with the Vice-Chairmen, during the intersessional period, all aspects governing the functioning of non-governmental international organizations. A set of proposals prepared by the Chairman was presented to the Eleventh Consultative Meeting (LDC 11/1/1).

1.17 The Meeting set up a Working Group to evaluate the procedures proposed by the Chairman (LDC 11/1/1). The Meeting, in accepting the results of the Working Group, adopted a draft resolution concerning the participation of non-governmental international organizations, as shown at annex 2 to this report (resolution LDC.30(11)).

1.18 A number of delegations emphasized the important role of non-governmental international organizations in the work of Consultative Meetings; they welcomed the development of guidelines as contained in the above resolution and emphasized that this was needed to clarify certain aspects related to the future participation of non-governmental organizations.

1.19 The Consultative Meeting decided that the following international non-governmental organizations should be invited to attend, in an observer capacity, the Twelfth Consultative Meeting of Contracting Parties to the London Dumping Convention and the twelfth meeting of the Scientific Group on Dumping:

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
EUROPEAN COUNCIL OF CHEMICAL MANUFACTURERS' FEDERATION (CEFIC)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
GREENPEACE INTERNATIONAL
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN)
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES (PIANC)
ASSOCIATION OF MARITIME INCINERATORS (AMI)
EUROPEAN ATOMIC FORUM (FORATOM)
OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P Forum)
ADVISORY COMMITTEE ON POLLUTION OF THE SEA (ACOPS)

2 STATUS OF THE LONDON DUMPING CONVENTION

Current status

2.1 The Meeting took note of the report of the Secretary-General, prepared on 26 July 1988 (LDC 11/2), concerning the current status of the London Dumping Convention and of the 1978 and 1980 amendments thereto, noting that as of that date sixty-two Governments had ratified or acceded to the Convention. The Meeting further noted information provided by the Secretariat concerning steps currently being taken to ascertain the status of Costa Rica and San Marino in respect of which no formal notification as to their deposit of instruments of acceptance of the Convention had been received by the Secretary-General from the Governments of Depositary States. These two countries had been frequently listed as Contracting Parties to the London Dumping Convention in tables prepared by other United Nations organizations (LDC 11/2/2).

2.2 In noting that only eleven Contracting Parties had accepted the 1978 amendments to the Convention concerning procedures for the settlement of disputes, compared with the forty-two acceptances (i.e. two-thirds of Contracting Parties) currently required to bring the amendments into force, the Consultative Meeting again urged Contracting Parties to give priority to the acceptance of these amendments.

2.3 The Portuguese delegation informed the Consultative Meeting that legislation giving effect to the above amendments have been approved by the Government of Portugal, and that remaining formalities were expected to be completed by the end of 1988. The Greek delegation also reported that the amendments were under consideration. The Mexican delegation informed the Consultative Meeting that it was considering the general question of settlement of disputes in the context of Article 287 of the United Nations Convention on the Law of the Sea. For this reason Mexico was not yet ready to accept the amendments.

2.4 In recognizing that the effectiveness of the Convention would be further enhanced by widening its level of acceptance, the Meeting requested the Secretary-General to write to Governments that had not yet ratified or acceded to the Convention, inviting them to do so as soon as possible and to indicate any specific problems they may have in implementing the provisions of the London Dumping Convention, including difficulties resulting from the amendments to the Annexes, and also to indicate any assistance they might require in implementing the provisions of the Convention.

Adoption of Chinese as an official language

2.5 Following consideration of China's request for an amendment to the Rules of Procedure for the Consultative and Special Meetings of the Contracting to include "Chinese" as one of the official languages (LDC 11/2/1), the Meeting adopted the necessary changes to Rules 24, 25 and 26 of the Rules of Procedure.

3 CONSIDERATION OF THE REPORT OF THE SCIENTIFIC GROUP ON DUMPING

3.1 The Secretariat briefly summarized the reports of the tenth and eleventh meetings of the Scientific Group on Dumping, drawing attention to those parts of the reports (LDC/SG 10/11, LDC/SG 11/13) which require particular action by the Consultative Meeting (LDC 11/3). The outgoing Chairman of the Scientific Group, Mr. R. Boelens (Ireland), provided a comprehensive review of activities carried out since the Tenth Consultative Meeting, highlighting the main developments and recommendations emanating from the Scientific Group. These are reflected in the following paragraphs, together with the actions taken thereon by the Consultative Meeting.

Review of the position of substances in Annexes I and II

3.2 The Meeting recalled that it had previously adopted in principle the recommendations of the Scientific Group with respect to the position of lead and organosilicon compounds in the Annexes to the Convention. The Meeting noted that no new evidence had since been submitted which would change these recommendations.

3.3 The Scientific Group had considered the need to include tributyltin compounds (TBT) in the Annexes. Although these compounds may be extremely toxic to marine organisms, they are most unlikely to be directly dumped at sea and the inclusion of these substances in Annex I would not at present contribute effectively to control measures. A number of countries had already taken steps to restrict the sale and use of TBT compounds for antifouling purposes and the Scientific Group had recommended that the use of replacement compounds should be encouraged as and when these become available. The Scientific Group would keep TBT compounds under review with particular regard to research on the bioavailability and analytical aspects of these compounds contained in sediments.

3.4 The Meeting was informed about a new generation of copper-based anti-fouling paints designed to replace TBT compounds. The delegation of Argentina described an occurrence involving the production of a toxin by shellfish which had been exposed to a freshly applied copper-based anti-fouling compound. Doubts existed about the environmental safety of such

new compounds and it was therefore felt to be appropriate that the Scientific Group should also keep the position of such new copper-based anti-fouling paints under review.

3.5 While accepting the advice of the Scientific Group, several delegations emphasized the need for caution in the use of TBT compounds for marine anti-fouling purposes and urged that such uses be restricted to the extent possible. The observer of IUCN suggested that it would be appropriate for the Consultative Meeting to urge all Contracting Parties to take steps for controlling the use of tributyltin compounds within their jurisdiction, and that this could be achieved either through an LDC resolution or a by plea from the Consultative Meeting to Contracting Parties to take appropriate steps for the control and prohibition of the use of TBT compounds.

3.6 The Meeting was also informed by the Secretariat that the Marine Environment Protection Committee (MEPC) of IMO had been requested by the Paris Commission to consider measures under the relevant IMO legal instruments to restrict the use of TBT compounds on seagoing vessels in order to supplement the measures that had already been taken within other fora to eliminate pollution from such compounds. MEPC at its twenty-sixth session agreed that its Members should provide information on:

.1 ecological effects that have resulted from the use of TBT compounds;

.2 actions taken on national levels for restricting the use of TBT compounds; and

.3 reasons why legislation prohibiting the use of TBT anti-fouling paints at a national level has so far been limited to vessels of less that 25 metres only.

3.7 In light of the above information and discussion thereon, the Meeting agreed to:

.1 urge all Contracting Parties to take steps to control the use of tributyltin compounds within their jurisdiction;

.2 urge Contracting Parties to search actively for anti-fouling paints that will not have harmful effects on the marine environment; and

.3 request Contracting Parties to provide to the Secretariat, for information of other Contracting Parties, the names of experts who could provide scientific and technical assistance in monitoring and evaluating the effects of tributyltin compounds on the marine environment.

Review of the Guidelines for the Allocation of Substances to the Annexes

3.8 The Consultative Meeting recalled that when evaluating the hazard potential of substances and wastes in accordance with the Guidelines for the Allocation of Substances to the Annexes (resolution LDC.19(9)), six key characteristics of a substance would need to be considered, one of which was the bioaccumulative potential, and another the toxicity of a substance. Preliminary advice on the measurement of these parameters referred to the significance of "bioavailability" - a term which had itself not been well defined. The Meeting noted that the Scientific Group had refined its advice on the meaning and measurement of bioavailability and had proposed a new wording for inclusion in the Allocation Guidelines.

3.9 Similarly, the Scientific Group had refined its earlier advice on the matter of "environmental exposure", clarifying the fact that exposure becomes significant where concentrations and time elements facilitate harmful effects by substances with potentially harmful properties. A new text on environmental exposure had been prepared by the Scientific Group for inclusion in the Allocation Guidelines.

3.10 The proposed changes to the Allocation Guidelines were submitted to the Meeting in the form of a draft resolution (LDC 11/3/1).

3.11 In discussing the proposed changes, the observer of Greenpeace International commented that the wording of the texts did not appear to reflect the "precautionary principle" advocated by a number of Contracting Parties.

3.12 The Consultative Meeting nevertheless agreed that the revised texts provided sufficient clarification of the terms "bioavailability" and "significant exposure" and, following minor editorial changes, adopted the revisions as shown at annex 3 (resolution LDC.31(11)).

Review of the Guidance for Annex III

3.13 In accordance with the emphasis given to "bioavailability" in the revised Allocation Guidelines (see paragraph 3.12 above), the Scientific Group had recommended that this term should also be added to the Annex III Guidelines, Section A4-A6.

3.14 In this context it was also recalled that the Tenth Consultative Meeting had agreed to adopt an additional consideration under Annex III, Part A, concerning the adequacy of data used to characterize wastes proposed for sea disposal. A draft guideline for the interpretation of the amendment to Annex III (Section A9) had been prepared by the Scientific Group. The Consultative Meeting adopted the changes to the Annex III guidelines proposed by its Scientific Group as shown in annex 4 (resolution LDC.32(11)).

Alternatives to the black list/grey list approach: progress of the ad hoc Working Group on the Annexes to the Convention

3.15 In accordance with resolution LDC.27(10), the Scientific Group had established an ad hoc Working Group to carry out a fundamental review of the operational procedures of the Convention with the ultimate goal of eliminating certain inconsistencies and ambiguities from the existing procedures, overcoming difficulties caused by terminology and generally improving the regulation of dumping within an holistic, waste management context.

3.16 The Chairman of the ad hoc Working Group emphasized that this review was entirely consistent with the other activities of the Scientific Group, namely the continuing work on hazard assessment principles that were contained in the Allocation Guidelines and further elaborated in the Annex III Guidelines. Their combined purpose was to provide stringent, but at the same time practical and scientific, procedures that should be applied in justifying any disposal of wastes at sea.

3.17 To date, one meeting of the ad hoc group had been held and already considerable progress had been made. Specific measures were being developed to improve confidence in the control procedures laid down by the Convention, to simplify and clarify the process for evaluating wastes and to place greater emphasis on the design and conduct of monitoring for compliance purposes.

3.18 The Scientific Group emphasized the need that persons seeking a sea disposal permit should be required to develop, in collaboration with the appropriate regulatory agency, an impact hypothesis. This would include all anticipated effects on the marine environment (chemical, physical and biological effects) resulting from the disposal operation. If the effects were determined to be harmless and a permit was issued, the impact hypothesis would be the primary basis for monitoring activities.

3.19 Another idea that emerged was a revised system for classifying wastes that incorporates the development of a "Prohibition List" as well as of another list, provisionally described as an "Action List". Wastes could be entered in the "Prohibition List" for a number of reasons such as, for example, their chemical composition, their biological properties or even their origin (e.g. where the process is such that alternative technologies are both universally, and practically, available to avoid waste, or to treat or dispose of the waste on land). The "Action List" would contain substances for which sea disposal may be considered only when the amounts involved and their biological properties fall within specified limits.

3.20 As part of the fundamental review of the Annexes and operational procedures of the Convention, the classification system currently discussed by the ad hoc Group had been incorporated into a comprehensive evaluation procedure (presented in a schematic format) which would take account of all Annex III considerations and include a number of new factors such as the contribution that a waste could make to local, regional or global fluxes (that is the amount by which it accelerates land/sea transport of certain substances).

3.21 As emphasized by the Scientific Group, these new proposals were still at a very early stage of development and further work was planned over the

intersessional period to examine these and any alternative ideas for restructuring of the Annexes (LDC 11/3).

3.22 The Consultative Meeting welcomed the progress made by the ad hoc Working Group on the Annexes and encouraged the Group to continue its efforts to develop an assessment procedure which would allow a more harmonized approach to implementation of the Convention and reflect established principles of good waste management.

3.23 Several delegations emphasized that there was no immediate need to change the operational procedures of the Convention and that nothing should be done to weaken the existing procedures. It was also noted that the current structure of the Annexes had been adopted by a number of other conventions on marine pollution prevention and that changes might therefore have significant implications.

3.24 The Danish delegation informed the Meeting that it had participated in the ad hoc Working Group and felt that a number of proposals being considered reflected a more cautious approach to dumping and better application of waste management principles. Nevertheless, Denmark would remain committed to a process which would ultimately lead to the complete cessation of dumping at sea. As regards the use of specified limits for substances in the proposed "Action List" (see paragraph 3.19 above), Denmark would prefer these to be mandatory.

3.25 The USSR delegation supported the search for alternative operational procedures emphasizing the need to make them less complex to understand and to apply. The USSR had experience with the use of numerical limits to control waste inputs and would be pleased to make these available to the Group.

3.26 The delegation of Norway expressed its appreciation of the work to date and emphasized the importance of monitoring as part of the control process. It was underlined by that delegation that the new approach currently under consideration should not weaken the existing system of the Convention.

3.27 The delegation of Nauru emphasized the importance of the current black list/grey list approach on grounds of consistency with other existing international and domestic laws, and on grounds of embodiment of the precautionary principle as applied to the protection of the marine environment. The Nauru delegation suggested that supplements to the present approach might be useful but that these should not automatically be viewed as better alternatives. With respect to "compliance monitoring", the Nauru delegation noted that this approach is based on an "impact hypothesis", which in turn is based on the hypothetical "critical pathway" approach. This approach would limit consideration of environmental effects to a single pathway, based on modelling, and would consequently narrow rather than broaden monitoring activities. The Nauru delegation believed that monitoring should be expanded, rather than contracted and that future activities of the Scientific Group on Dumping should be so directed.

3.28 Several delegations expressed the view that the ad hoc Working Group should be open to all Contracting Parties and non-governmental organizations. The Chairman emphasized the importance of the widest possible participation in the work of the Group but reminded the Meeting that, in accordance with previously adopted and so far successful procedures for convening scientific sub-groups, participation should be limited to those submitting relevant documents. Progress was generally facilitated by smaller groups and, in the present case, continuity was essential. The Chairman, however, pointed out that non-governmental organizations may also provide papers addressing the terms of reference of the ad hoc Working Group, in which case, the author of the document representing an international non-governmental organization may be invited to attend the meeting, in accordance with the procedures adopted at this Consultative Meeting by resolution LDC.30(11) (see paragraph 1.17 above).

Field verification of laboratory test data

3.29 The Scientific Group is continuing to examine research to compare laboratory and field evaluations of the effects of disposal of waste materials. Laboratory examinations must accurately predict effects and must simulate actual conditions as closely as possible if they are to be effective for regulatory purposes.

Comparative studies on land-based alternatives

3.30 Comparative studies of contaminated dredged material have been carried out by several countries to evaluate marine disposal as well as land and estuarine alternatives. Results are promising for marine and estuarine locations while impacts regarding land disposal are less predictable. Comparative assessments of land and sea disposal indicate that for some persistent substances land disposal may pose a greater risk to human health and the environment. Similar studies are underway for sewage sludge.

3.31 Contracting Parties were encouraged to present experiences in this area in order to improve the operational procedures of the Convention and to assist in developing a range of new monitoring and evaluation techniques. Contributions were especially encouraged from outside the North Atlantic area representing a wider range of climatic conditions and waste management problems.

Monitoring and control of dumping and incineration activities

3.32 The Meeting was advised that the Scientific Group on Dumping was generally satisfied with the format of summary reports on dumping and incineration activities prepared by the Secretariat. The most recent report nearing completion was for the year 1985. However, the Scientific Group had not been satisfied with the response of Contracting Parties to the notification requirements of the Convention. Returns continued to be incomplete and, as a consequence, there was no authoritative record to provide a global perspective on waste disposal at sea. The Meeting requested the Secretariat to remind Contracting Parties once again about the vital importance of the notification procedures.

3.33 The Scientific Group had proposed a number of additions to the annual reports, including the optional submission of information on dumping activities in internal waters and information on monitoring for compliance purposes. This approach would allow a more comprehensive assessment of waste disposal at sea as well as the adequacy of monitoring activities.

3.34 The Meeting discussed at length the question of monitoring dumping operations and the necessity for such activities to be reported on a regular basis. It was noted that monitoring for compliance purposes could often be undertaken on a selective and restricted basis, in particular where the predicted impacts were of a minor nature. The most important consideration was that adequate evidence should be obtained to confirm that dumping was not harmful to the marine environment. It was also important to submit reports on monitoring to the Secretariat or to explain why monitoring was not felt to be necessary.

3.35 The Scientific Group was continuing to look for more practical and relevant monitoring techniques, especially those that integrate physical, chemical, and biological impacts. The Consultative Meeting requested the Scientific Group to consider this matter further and to prepare a draft resolution at its next meeting, indicating what monitoring activities should be reported and how they should be reported. The resolution should also outline the purposes and benefits of collecting and reporting monitoring data (e.g. description of methods, decision making protocols, etc.).

Processes and procedures for the management of wastes dumped at sea

3.36 The Scientific Group was continuing its discussions on the management of wastes dumped at sea including the alternatives available to avoid or otherwise dispose of wastes, as well as the methods that may be used to improve the conduct of sea disposal operations, for example by better prediction of fate and effects or by use of techniques which minimize the distribution and bioavailability of contaminants. The object of these discussions is to ensure that processes and procedures which have been used effectively in one country can be communicated to others with similar problems.

3.37 The outgoing Chairman of the Scientific Group informed the Meeting that details of promising techniques were given in Scientific Group reports and could be followed up through bilateral contacts. However, he also expressed the opinion that it might be useful to invite the Secretariat to prepare periodic summaries for easier reference. The summaries could also include information on monitoring techniques. The format might consist of a detailed subject index, classified abstracts and the names and addresses of persons who

could be contacted for additional information. This would help to encourage more co-operative research and would be extremely helpful to developing countries which are parties to the Convention. The Consultative Meeting appreciated this proposal and requested the Secretariat to prepare a summary for consideration by the Scientific Group at a future meeting.

Co-operation and information exchange

3.38 The Scientific Group had continued to monitor and influence work in other international organizations. The Group was particularly satisfied to learn that IMO had agreed to co-sponsor the work of the IOC Group of Experts on the Effects of Marine Pollution (GEEP). This would facilitate the attendance of LDC experts at relevant meetings of GEEP.

3.39 Experts of the Scientific Group had contributed to a number of international and regional symposia which were held during the past two years designed to bring knowledge and expertise on waste management, as it affects the marine environment, to a wider audience. Considerable credit for these initiatives was due to the co-operation between sponsoring agencies, national administrations responsible for the control of waste disposal at sea, and the collaboration of the host countries.

3.40 The Meeting noted with satisfaction the outcome of the 7th International Ocean Disposal Symposium hosted by Canada in September 1987. IMO, UNEP and the World Bank had joined with Environment Canada and United States agencies in sponsoring the symposium which brought together scientists and regulatory personnel from both developed and developing countries. The symposium covered dredging, risk assessment, near-shore versus off-shore disposal, fish wastes, incineration at sea, and aspects of disposal site selection and monitoring. The Meeting requested IMO to continue to support, to the extent possible, future International Ocean Disposal Symposia. The Meeting noted that the next Symposium would be held in Dubrovnik, Yugoslavia, in October 1989*.

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* Note by the Secretariat:

During preparation of this report the organizers of the Symposium agreed upon 9-13 October 1989.

3.41 The Meeting noted the continuing importance of the work of the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) in providing the Scientific Group with scientific information related to marine environmental protection and assessment. The Meeting agreed that the Organization should be requested to continue its support for GESAMP at an appropriate level.

3.42 At the request of the Secretariat, the Scientific Group had been asked to consider the benefits of IMO co-sponsorship of the Aquatic Sciences and Fisheries Information System (ASFIS). The Group had recommended co-sponsorship on the condition that other activities of the Secretariat relevant to the work of the Convention would not have to be reduced. While a number of technical complications remained, the Secretariat was confident that these could be resolved in the near future through discussions with ASFIS. The Consultative Meeting concurred with the recommendation of the Scientific Group on this matter.

Discharges from floating oil reception facilities

3.43 The Scientific Group recommended that Contracting Parties when issuing permits for disposal at sea of oily effluents from floating reception facilities, should assess the impact of such discharges in accordance with relevant Convention procedures rather than adopting the MARPOL standard of "less than 15 ppm" oil content suggested by the Marine Environment Protection Committee (MEPC) of IMO for purposes of the "trace contaminant" exemption. It was recognized, however, that in most cases, discharges of effluents containing less than 15 ppm oil would not significantly affect the marine environment.

3.44 The United States delegation noted that as a matter of principle, technology based standards, such as those contained in the MARPOL 73/78 Convention, should not be automatically accepted by the Consultative Meeting, but that the requirements of Annex I should be met by conducting appropriate evaluations of environmental effects. The Meeting agreed to this approach.

Incineration at sea

3.45 The Meeting was informed that considerable work had been undertaken during the intersessional period on the environmental acceptability and safety of incineration at sea. The outcome of this work, including that of a meeting of a Joint LDC/OSCOM Group of Experts on Incineration at Sea, is considered under section 4 of this report.

Statements in public media

3.46 The Meeting confirmed the views expressed at the eleventh meeting of the Scientific Group on Dumping that during the course of meetings, delegations and observers should refrain from making statements which could prejudice the outcome of meetings (LDC/SG 11/13, paragraph 12.17). Greenpeace International informed the Meeting that, as already expressed at the eleventh meeting of the Scientific Group (LDC/SG 11/13, paragraph 12.16), it did not speak to the media during that meeting. The Meeting was also informed that representatives from two Contracting Parties as well as the observer from AMI had been approached by journalists during the meeting of the Scientific Group, but that the statements published in the press had not been made by them.

Future work programme

3.47 In discussing the future work of the Scientific Group, the delegation of the Federal Republic of Germany suggested that, in preparing the agenda, an indication should be given as to the priority attached to various agenda items. It would also be helpful to indicate the anticipated dates for completion of projects assigned to the Group by the Consultative Meeting.

3.48 The Secretary explained that a number of items on the Scientific Group agenda were continuing items, such as the review of research projects and the exchange of information on treatment technologies. Nevertheless, it might be possible to prepare a 2-3 year work programme identifying priorities and reporting dates.

3.49 The Meeting agreed to request the Scientific Group to consider the development of a 2-3 year programme at its next meeting. The substantive

items for the agenda of the twelfth meeting of the Scientific Group on Dumping were also agreed, as shown at annex 8.

3.50 The Meeting expressed its appreciation to the outgoing Chairman and Vice-Chairman of the Scientific Group, Mr. R. Boelens (Ireland) and Mr. J. Karau (Canada). The Meeting welcomed Mr. R. Engler (United States) and Mr. R. Coenen (Netherlands) as the new Chairman and Vice-Chairman respectively.

4 MATTERS RELATING TO THE INCINERATION OF WASTES AND OTHER MATTER AT SEA

4.1 The Chairman of the Meeting drew attention to the second meeting of the Joint LDC/OSCOM Group of Experts on Incineration at Sea (LDC/OSCOM/IAS 2/9) and the Danish proposal for phasing out incineration at sea (LDC 11/4 and LDC 11/4/Corr.1) as two of the major items for discussion. In order to allow for the most orderly and informed discussion of the Danish proposal the Meeting agreed to consider the matters before it in the following fashion:

.1 firstly, the outcome of the Scientific Group on Dumping concerning matters related to incineration at sea (including its recommendations);

.2 secondly, the review of an outstanding item from LDC 10 concerning the surveillance of cleaning operations carried out on board incineration vessels (LDC 11/4/2/Rev.1);

.3 thirdly, other related documents submitted to the meeting; and

.4 finally, discuss the Danish proposal for phasing out incineration at sea.

Outcome of the Scientific Group and its recommendations

4.2 The outgoing Chairman of the Scientific Group, in introducing the outcome of that Group concerning incineration at sea, noted that the regulation and control of incineration at sea had been the subject of attention of the Scientific Group for more than a decade. More recently, the Tenth

Consultative Meeting adopted terms of reference for a special review of incineration at sea, to be held in conjunction with the Oslo Commission, and to report (in the first instance) to the Scientific Group on Dumping. This expert meeting had been invited to review and discuss all aspects of incineration at sea relating to the environmental acceptability and safety of this practice.

4.3 The Joint LDC/OSLO Commission Group of Experts on Incineration at Sea (LDC/OSCOM/IAS 2/9) met at the end of April 1987. The topics reviewed and discussed included:

.1 the technology of marine and land-based incineration;

.2 the emissions from incinerators, in particular from those used to destroy liquid chlorinated wastes;

.3 the impacts of emissions from marine incineration facilities on the marine environment;

.4 the comparison of land- and sea-based incineration operations from the standpoint of performance and environmental risk; and

.5 any changes required to the LDC Regulations or Technical Guidelines on Incineration at Sea.

4.4 As a result of the work undertaken by the Joint LDC/Oslo Commission Meeting, and in the light of additional debate by the Scientific Group, it had been agreed at the eleventh meeting of the Scientific Group (LDC SG 11/13)that there was a need to encourage further research on certain aspects of incineration at sea, including:

.1 concepts for evaluating destruction efficiency of marine incinerators;

.2 the effects on marine ecosystems due to possible impacts with the sea surface microlayer; and

.3 the collection of more data on the composition, persistence, toxicity and levels of organic emissions.

4.5 It had also been agreed that a separate evaluation should be made of the risks of spills or leakages from incineration vessels. In this regard it was noted that an informal group of experts (LDC 11/4/1) had concluded that the probability of releases of cargo from incineration vessels was low - on the basis of current incineration activities in the North sea the incidence was estimated by an independent IMO consultant as 1 spill in 68,000 voyages, and by another Netherlands' study as 1 spill in 37,000 voyages. Further work was considered necessary to evaluate the possible impacts of spillages on the marine environment from incineration and other chemical-carrying vessels. In addition, the Secretariat noted that the IMO consultant's study (LDC 11/4/1) had been distributed for comments but none had as yet been received.

4.6 Despite the need for continuing study of certain aspects of incineration at sea, it had been agreed by the great majority of the Scientific Group that there was already in existence an adequate basis of information to advise the Meeting on the environmental acceptability and safety of marine incineration activities. Up to the time of the last Scientific Group meeting, no convincing evidence had been received to show that incineration at sea, as carried out over a period of about 18 years, had caused harm to the marine environment.

4.7 Within the framework of a comprehensive waste management system, the Scientific Group felt that incineration at sea could play a role as an interim destruction technology for hazardous wastes. It was also acknowledged by the Scientific Group that the recent decision by North Sea countries to phase out incineration at sea in a regional context should not preclude the use of incineration at sea in other parts of the world.

Amendments to the Annex III Guidelines

4.8 In order to reflect within the operational procedures of the Convention, the conditions and considerations that are relevant to decisions on the use of incineration at sea, the Scientific Group recommended that a new guideline

should be added to the Annex III Guideline C4 - that is the guideline which relates to the practical availability of alternatives to sea disposal of wastes (LDC 11/4/3, paragraph 2 and Appendix). The proposed C4 Guideline on incineration at sea has, as its prime objective, a progressive reduction in the amounts of wastes that require destruction by incineration on land or at sea. The Guideline clearly indicates that incineration at sea should only be considered in the context of an active national waste management programme. In such a context, its use may only be justified on an interim basis pending the availability of other environmentally more acceptable land-based alternatives. The C4 Guideline also emphasizes that incineration at sea must always conform with the Regulations and the Interim Technical Guidelines established under the Convention to control the practice. The Consultative Meeting adopted the proposed changes to Section C4 of the Annex III Guidelines, as set out in annex 4 (resolution LDC.32(11)).

Proposed amendments to the Interim Technical Guidelines

4.9 The outgoing Chairman of the Scientific Group noted that his Group, in its efforts to ensure that the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea are continuously updated to reflect recent knowledge of incineration technology, has proposed a number of amendments to the Guidelines (LDC 11/4/3, LDC 11/4/3/Corr.1).

4.10 The Meeting discussed at length the proposed amendments to the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea. The Chairman of the Meeting emphasized that the proposed amendments should be considered as to whether or not they were an improvement of the existing Interim Guidelines and not in light of any possible prejudice to the subsequent Danish proposal for phasing out incineration at sea (see paragraph 4.24 below).

4.11 Most delegates stated their national policies with respect to incineration at sea, as did the non-governmental organizations attending the Meeting; however, despite the varying policy positions it was generally agreed that the proposed amendments were in fact an improvement on the existing Interim Guidelines. With regard to a proposal by the Scientific Group that

the term "Interim" be deleted in the title of the Guidelines, the observers from Greenpeace International and the International Union for Conservation of Nature and Natural Resources (IUCN) supported the view that it was preferable to retain the term "interim" in the title of the guidelines in view of the iterim standing of this disposal method, and noted their general concerns associated with the scientific uncertainties associated with incineration at sea. The Meeting agreed that the term "interim" should not be deleted from the title of the guidelines.

4.12 During the consideration of the proposed amendments to the Interim Guidelines on the Control of Incineration at Sea, several delegations and non-governmental organizations expressed reservations about the proposed provisions for allowing black smoke during certain operating conditions and a miminimum frequency of at least 15 minutes for continuous measurements. However, it was eventually accepted that the proposed new provisions presented a more accurate reflection of current incineration at sea practices than the previous text.

4.13 The delegation from Denmark, supported by several other delegations, recommended that several paragraphs of the proposed amendments to the guidelines dealing with the issuance of permits for incineration at sea, should be removed from consideration pending the outcome of the Danish proposal to phase out incineration at sea. The subsequent resolution on the status of incineration at sea (see paragraph 4.31 below) precluded the need for this proposal.

4.14 The Meeting finally adopted the proposed amendments to the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea as shown in annex 5 (resolution LDC.33(11)).

4.15 The Secretariat informed the Meeting of the request of the Scientific Group on Dumping thàt a composite document on guidance regarding incineration at sea (LDC 11/4/4) be prepared. The Secretariat suggested, and the Meeting agreed, that this task should await the outcome of the Eleventh Consultative Meeting so as to provide the most up-to-date information possible.

Guidelines for the Surveillance of Cleaning Operations

4.16 The Secretariat drew attention to the proposed resolution on new Guidelines for the Surveillance of Cleaning Operations Carried out at Sea on Board Incineration Vessels (LDC 11/4/2/Rev.1). That resolution had been considered at the Tenth Consultative Meeting and deferred for final adoption until the Eleventh Consultative Meeting to allow for further consideration of the text. The Meeting adopted the referenced guidelines as set out in annex 6 to this report (resolution LDC.34(11)). It was further noted that Contracting Parties having ratified MARPOL 73/78 would apply the MARPOL requirements for the surveillance of cleaning operations carried out at sea on board incineration vessels, and Contracting Parties not having ratified MARPOL 73/78 would apply the newly adopted LDC guidelines.

Further research

4.17 The observer from the Association of Maritime Incinerators (AMI) introduced two papers (LDC 11/INF.15 and LDC 11/INF.6) concerning the scientific aspects which might require additional clarification or further research. In this connection the observer from AMI proposed (LDC 11/INF.6) that if further research were to be conducted then the Consultative Meeting should be the commissioning body. AMI would financially support such research if the Consultative Meeting feels it to be appropriate.

4.18 The delegation of the Federal Republic of Germany informed the Meeting (LDC 11/INF.19) of increased concentrations of hexachlorobenzene (HCB) and octachlorostyrene (OCS) in the surface sediments at the North Sea incineration site and the surrounding area. That delegation stated that it was not improbable to conclude that, besides other influences that might have played a role, an enrichment of HCB and OCS had occurred in the surface sediments of the incineration site and of its surrounding area due to emissions from the incineration of wastes at sea.

4.19 In addition, that delegation noted that in light of the above findings, its national administration responsible for issuing incineration permits had expressed some concerns on possible adverse effects on the marine environment,

and that in accordance with the national law of the Federal Republic of Germany would only be issued in exceptional cases, i.e. if this is urgently required in the public interest.

4.20 In response to the above statement made by the Federal Republic of Germany, the observer from AMI stated that the information available on HCB and OCS in surface sediments of the incineration site was incomplete and that in its opinion a suggestion linking incineration at sea with contaminants found in sediments was highly speculative (LDC 11/INF.21).

Plans for terminating incineration at sea

4.21 The observer from the Oslo Commission emphasized that the Commission's decision to terminate incineration at sea by Contracting Parties to the Oslo Convention and within the Oslo Convention area by 31 December 1994 contained additional controls which were integral parts of that decision. In this connection it was noted that parties to the Oslo Convention should not export wastes intended for incineration in marine waters outside the Convention area, nor allow their disposal in other ways harmful to the environment.

4.22 The observer from Friends of the Earth International (FOEI) expressed support for initiatives aimed at phasing out incineration at sea worldwide. It was also stressed that a technology which has been abandoned in Europe should not now be introduced elsewhere (LDC 11/INF.3).

4.23 The observer from AMI in responding to the above comments submitted by FOEI, emphasized that at no time had AMI members collected wastes from industrial "Western Nations" with the intention of disposing of them in developing nations, and that the rationale for the phasing out of incineration at sea in Northern Europe was based on the assumption of on-land alternatives being available in these countries for the wastes remaining by 1994 (LDC 11/INF.16).

4.24 The delegation from Denmark introduced its proposal to phase out incineration at sea (LDC 11/4 and LDC 11/4/Corr.1). That delegation outlined

its rationale for phasing out incineration at sea as soon as possible by providing the following reasons:

.1 incineration at sea interferes with other legitimate uses of the sea - first of all fisheries;

.2 incineration at sea has been originally agreed upon as an interim method pending the development of environmentally better solutions - as exressed in the 1978 LDC resolution on incineration at sea;

.3 incineration at sea is no longer needed, as it has clearly been established that a wide variety of reduction, recovery and treatment technologies is available for most of the wastes currently incinerated at sea - this fact was established by the expert group on incineration at sea in 1987;

.4 the continued allowance of incineration at sea would present no incentives to waste generators or States for the development of environmentally better solutions;

.5 the continuation and possible expansion of incineration at sea by increasing numbers of countries would aggravate the problems;

.6 the possible occurrence of major spills from incineration vessels would have widespread and long lasting effects, depending on the type of waste and the place of the spill;

.7 the apparent importance of the ocean's microlayer - this very thin layer occupies more than two-thirds of the Earth's surface - and the possibility that this layer accumulates toxic components, raises the question as to whether marine incineration causes significant damage to the marine environment;

.8 the accumulation of hexachlorobenzene in sediments at the present burn site gives rise to serious concern and should be taken as an early warning;

.9 the necessity to gain much more information to fully evaluate the extent of the risks posed by incineration at sea;

.10 an agreement has already been reached by the States bordering the North Sea and by the North East Atlantic countries (Parties to the Oslo Convention) that incineration at sea should be phased out by 1994; and

.11 no effects from incineration at sea have so far been detected, because surprisingly very few field investigations have been carried out in connection with incineration at sea; furthermore no regular monitoring has ever been carried out at incineration sites.

In concluding its remarks, the delegation from Denmark observed that in its view most Contracting Parties present at this Meeting neither supported incineration at sea nor had immediate plans to incinerate liquid noxious wastes at sea.

4.25 A number of delegations supported the Danish proposal to terminate incineration at sea. In order to achieve more support for its proposal, the Danish delegation modified its proposal by changing the termination date from 1989 to the end of 1994.

4.26 The Chairman of the Meeting, prior to requesting comments on the Danish proposal, noted that there appeared to be general agreement that incineration at sea was indeed considered as being an interim disposal method which might eventually be phased out and replaced by safer and more environmentally acceptable waste treatment and disposal options. In this connection he also drew the attention of the Meeting to its endorsement of a waste management hierarchy within the Annex III Guidelines and expressed his hope that a solution to this issue could be reached by consensus.

4.27 The Canadian delegation stated that it believed that some common ground could be found between the draft resolution prepared by Denmark and the waste management hierarchy approach as reflected in the aforementioned addition to the Annex III C4 Guidelines. That delegation therefore supported the creation

of a working group during this Meeting to look at the development of a proposal satisfactory to all Contracting Parties. The idea of establishing a small group to consider this issue was accepted by the Meeting.

4.28 The Irish delegation endorsed the idea of a working group, but emphasized the importance of having clear terms of reference. It also drew attention to the recently completed scientific review of incineration practices and emphasized that the review had not shown any evidence that incineration on land was safer or environmentally more acceptable than incineration at sea. This point should be borne in mind in any decision reached by the Consultative Meeting concerning the future of incineration at sea.

4.29 Under the direction of the Chairman several guiding principles were established for convening the working group. The Chairman, based on the various suggestions brought forward, proposed that the working group consider the following:

.1 the Danish proposal to terminate incineration at sea;

.2 the waste management hierarchy as found in the Annex III C-4 Guidelines;

.3 the interim nature of incineration at sea; and

.4 the possibility of re-evaluating incineration at sea in light of the OSCOM experience with a proposed 65% reduction in incineration at sea by 1991, and of a better global assessment of environmentally more acceptable land-based alternatives.

4.30 The Secretariat noted that there was an important distinction to draw between incineration at sea of all wastes (including garbage and oil residues as well as noxious liquid wastes) and incineration at sea of noxious liquid wastes only. The Meeting agreed to focus on noxious liquid wastes and requested the Secretariat to provide an assessment to the next Consultative

Meeting on the possible implications on the incineration at sea of other wastes or matter, including the current MEPC examination of air emmissions from the shipping industry.

4.31 The Working Group established under paragraph 4.27 above developed a draft resolution on the status of incineration at sea which the Meeting adopted with some minor changes, as shown in annex 7 (resolution LDC.35/11)).

4.32 The delegation from the United States welcomed this development; it looked forward to the re-evaluation of incineration at sea as envisaged by the above resolution to be carried out by 1992. Such an evaluation should provide a sound basis for future decisions on this issue. That delegation also stated that this re-evaluation will be extremely important in assessing the scientific and technical aspects of incineration at sea and practicable land-based alternatives. The United States delegation, whilst supporting in principle the provisions of the resolution concerning the export of wastes for incineration at sea, expressed the need to review its domestic law on this matter to see how it could implement this provision. It would report its final views on this particular matter to the Secretariat.

4.33 The delegation of Argentina felt that the operative paragraphs 3 and 4 of resolution LDC.35(11) should be interpreted in such a way that it covers not only the export of wastes to a State not Party to the Convention but also the transportation of wastes to an overseas territory of a Contracting Party for the purpose of incineration at sea. Overseas territories are often located in relatively pollution-free environments.

5 IMPLICATIONS REGARDING THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA FOR THE LONDON DUMPING CONVENTION

Outcome of the ad hoc Group of Legal Experts on Dumping

5.1 As agreed at the Tenth Consultative Meeting, the ad hoc Group of Legal Experts on Dumping was convened from 19 to 23 October 1987 in order to consider, inter alia, implications regarding the United Nations Convention on the Law of the Sea for the London Dumping Convention. The ad hoc group

met under the chairmanship of Mr. A. Bos (Netherlands) and was attended by experts from fifteen Contracting Parties and representatives from seven international organizations. The Chairman of the Group reported the findings and recommendations of his Group (LDC 11/5) to the Meeting. The subsequent discussions of the Consultative Meeting on this subject are summarized in the following paragraphs.

5.2 The Meeting accepted the conclusion of the Group that there were no fundamental inconsistencies between the United Nations Convention on the Law of the Sea (UNCLOS) and the London Dumping Convention, which would suggest the need to amend the London Dumping Convention.

5.3 The Meeting also agreed that the London Dumping Convention should be interpreted in the light of developments in international law since the adoption of the London Dumping Convention in 1972, including those reflected in Part XII of UNCLOS. It was indicated that, inter alia, the requirements of articles VII(1)(c) and VII(2) of the London Dumping Convention should be interpreted accordingly.

5.4 The Meeting endorsed the conclusion of the Group that a Party could apply, in accordance with international law, the London Dumping Convention to dumping not only in its territorial waters but also in the Exclusive Economic Zone (EEZ) and onto its continental shelf. The Meeting noted the divergence of views in the Group as to whether an EEZ, as such, must be established before a coastal State could exercise jurisdiction over the dumping conducted in the area within 200 nautical miles from the coast.

5.5 Some legal experts had given their opinion that UNCLOS was a more general and later Convention than the London Dumping Convention and that the interpretation of the provisions of the London Dumping Convention should follow corresponding or relevant provisions of the Convention on the Law of the Sea, as referred to in article 237.2 of UNCLOS. The ad hoc Group felt, however, that it was not appropriate or necessary to state this, since the Vienna Convention on the Law of Treaties and some provisions of the Convention on the Law of the Sea itself, when it enters into force, would make the relationship between that Convention and the London Dumping Convention clear.

5.6 Some delegations considered that the conclusion referred to in paragraph 5.4 above should better be explicitly clarified through amendments to article VII of the London Dumping Convention, concerning the adoption of measures by Contracting Parties in their respective territories to prevent and punish conduct in contravention of the London Dumping Convention (article VII(2)).

5.7 The Meeting agreed that this matter should be considered in the future with a view to implementing article XIII of the Convention at a future Meeting, since article XIII requires Contracting Parties to consult at a meeting to be convened after conclusion of the Law of the Sea Conference with a view to defining the nature and extent of the right and the responsibility of a coastal State to apply the Convention in a zone adjacent to its coast.

UN resolution 42/187

5.8 The Meeting was also informed of UN resolution 42/187 (Recommendations Concerning the Report of the World Commission on Environment and Development (Brundtland Report)), which requests all United Nations Organizations to take account of the analysis and recommendations of the Brundtland Report in determining their policies and programmes, and to report on the implementation of the various recommendations to the United Nations General Assembly. The Brundtland Report contains the recommendation that the "London Dumping Convention" be "encouraged ... to reaffirm the rights and responsibilities of States to control and regulate dumping within the 200-mile EEZ" and that "it is urgent that they do so, as oceans and food chains respect no boundaries" (LDC 11/5/1).

5.9 With regard to this recommendation, the Meeting agreed that the UN General Assembly should be informed by the Secretary-General of IMO that Contracting Parties to the London Dumping Convention agreed that the Convention may be applied not only in territorial waters but also within the 200-mile EEZ.

5.10 The Meeting further noted the Brundtland Report recommendation that "all States should undertake to report releases of toxic and radioactive substances

from land-based sources into any body of water to the appropriate Convention Secretariat so that they may begin to report on the aggregate releases into various seas. Competent authorities must be designated to keep records of the nature and quantities of wastes dumped. Beyond that, regional institutions should forward this information to the London Dumping Convention Secretariat."

5.11 With regard to this second recommendation, the Meeting noted that the text was somewhat ambiguous. Discharges ("releases") of toxic and radioactive substances from land-based sources were reported by Parties to regional legal instruments concerning the prevention of marine pollution from land-based sources (e.g. Paris Convention, Barcelona Protocol, Helsinki Convention) to the respective Secretariats. The Secretariat of the London Dumping Convention, however, would only receive data and material concerning wastes dumped or incinerated at sea. This information was received either directly from Contracting Parties to the London Dumping Convention or through the respective Secretariats of regional dumping agreements. The Meeting agreed that the Secretary-General of IMO should provide the United Nations General Assembly with information on the notification system established under the London Dumping Convention, thus removing any misunderstanding that may have arisen in the Brundtland Report.

5.12 The Meeting was also informed of the follow-up action taken by the Marine Environment Protection Committee (MEPC) to the consideration by the IMO Council of UN resolution 42/187. In this regard, it was noted that the Marine Environment Protection Committee of IMO had adopted a questionnaire by which Governments may indicate potential problems concerning the implementation of MARPOL 73/78 (LDC 11/INF.13). In giving similar regard to problems that countries may have in implementing the London Dumping Convention, the Meeting recalled that the Secretary-General of IMO in his letter to Governments of non-Contracting Parties (as requested in paragraph 2.4 above) should make particular reference to the report of the World Commission on Environment and Development (the Brundtland Report) and UN resolution 42/187, when inviting them to indicate any problems they may have in acceding to, and in implementing, the provisions of the London Dumping Convention.

6 PROCEDURES FOR THE ASSESSMENT OF LIABILITY CONCERNING DAMAGE TO THE ENVIRONMENT CAUSED BY DUMPING AT SEA

6.1 The Chairman of the ad hoc Group of Legal Experts on Dumping, Mr. A. Bos (Netherlands), reported on the outcome of the deliberations by his Group on the possibility of establishing a liability and compensation scheme concerning damage caused by dumping at sea (see also section 5 above). The Chairman, in introducing the report of the Group (LDC 11/6), stated that the question on the assessment of liability procedures concerning disposal at sea of radioactive wastes, raised in resolution LDC.21(9) had been referred to his Group (LDC 10/15, paragraph 5.12). The Group considered that it should, as one of its tasks, collect and analyze information on the activities concerning the establishment of liability schemes conducted by other fora such as the Helsinki Commission, the International Law Commission, IAEA, IMO and OECD. The Group also noted the recourse available under national legislations as envisaged in Article 235(2) of the Convention on the Law of the Sea. Submissions to the Group had been made by Australia, Nauru and Spain on the subject (LDC 11/6/1). The Group had agreed that these documents should be retained for future consideration.

6.2 The Chairman of the Legal Group further reported that several members of his Group felt that it had been given a clear mandate to establish a regime for liability and compensation, as envisaged under article X of the London Dumping Convention prompted by resolution LDC 21(9), whilst the majority of the Group questioned the need to establish such a regime or considered it premature to establish one.

6.3 The Group, therefore, did not have any substantive discussion concerning the possibilities of setting up a liability regime under the London Dumping Convention.

6.4 The Spanish delegation introduced its papers (LDC 11/6/1, annex 3 and LDC 11/6/4) which analysed the basic problems of radioactive waste dumping and international liability as referred to in paragraph 7 of resolution LDC.21(9). The Spanish delegation expressed its regret that there had been no substantive discussion of the problem by the Legal Group. That delegation

pointed out that it was important that this matter be pursued by the Consultative Meeting and by IGPRAD.

6.5 The delegation of Nauru introduced its submission (LDC 11/6/1, annex 2 and LDC 11/INF.18), and emphasized that, while Nauru continued to hold its strongly felt position favouring a total ban on ocean dumping of all radioactive wastes, until such a ban was achieved there was a need for a liability regime to be established in respect of dumping radioactive wastes at sea. That delegation also felt that the establishment of such a regime was a prerequisite for lifting the moratorium concerning the sea disposal of low-level radioactive wastes according to resolution LDC.21(9). The proposal of Nauru was to establish a Liability Contingency Fund which would be used to counterbalance the risks caused by dumping, to warn citizens of these risks and thus help them to mitigate the harm, as well as to compensate for their actual and predicted losses.

6.6 In connection with the statement from Nauru that "the establishment of a liability regime was a prerequisite for lifting the moratorium concerning the sea disposal of low-level radioactive wastes", the Chairman pointed out that resolution LDC.21(9) specifically excludes the establishment of liability schemes from the conditions for lifting the moratorium concerning the sea disposal of low-level radioactive wastes.

6.7 The delegation of Australia introduced its document (LDC 11/6/1, annex 1), which contained an analysis of the various issues that may need to be addressed in developing the liability regime envisaged in article X as called for by resolution LDC.21(9).

6.8 Friends of the Earth International (FOEI) submitted three papers: a legal study (LDC 11/6/2), an inventory of international and regional conventions which were taken into account in the legal study (LDC 11/INF.2), and a note on how - in the opinion of FOEI - the Meeting should proceed on the liability question (LDC 11/6/3).

6.9 The observer from Greenpeace International (LDC 11/INF.20) discussed international liability for damage resulting from the dumping of radioactive

wastes at sea, the existing status of relevant law and its character as well as the status of both the London Dumping Convention and the present moratorium concerning the sea disposal of radioactive wastes.

6.10 The United States delegation strongly supported the conclusion of the majority of the members of the Legal Experts Group that there was no clear need to establish a liability regime at this time. The United Stated noted the success of the Convention in preventing damage due to disposal at sea and called attention to the fact that proponents of developing a liability regime had not pointed to a single case of damage to the marine environment caused by waste disposal at sea that merited the development of a liability scheme. The United States further emphasized that priority should be given to improving the Convention's regulatory structure and to completing tasks already begun (such as bringing into force the 1978 dispute-settlement amendments), rather than embarking on the extremely difficult and time-consuming tasks of developing a liability regime.

6.11 In the ensuing discussion, some delegations felt that although the development of procedures for the assessment of liability concerning damage to the environment caused by dumping at sea was a complex task, it is not an insurmountable one. In view of the provisions of article X, which require the development of such a procedure and of resolution LDC.21(9), which in its paragraph 7 reaffirms the requirements of article X, the respective task should be undertaken without delay. Other delegations doubted the need for such a procedure and considered that the effort required for this task should better be employed elsewhere; it was also pointed out that in certain countries domestic law provides for compensation.

6.12 The Meeting, with a view to making progress in the development of the liability regime required by article X of the Convention, agreed to establish a small task team of legal experts to take stock of existing domestic law, and public international law on civil and State liability applicable to damage resulting from the disposal of wastes and other matter at sea. The Meeting agreed that the task team should be composed of experts from Finland, the

Netherlands, Spain, Sweden and the United States. The terms of reference of the task team were agreed as follows:

.1 To take stock of:

.1.1 the existing domestic laws applicable to liability for damage resulting from the disposal of wastes and other matter at sea;

.1.2 the existing international legal regimes of civil liability that may be applicable to damage caused by disposal at sea;

.1.3 the existing public international law and international work currently in progress pertaining to State responsibility or liability that may be applicable to damage caused by disposal at sea.

.2 to report its findings to the Twelfth Consultative Meeting.

6.13 The Meeting also agreed that Contracting Parties should be asked by the Secretariat to report by 1 May 1989 on their applicable domestic law and their international commitments and experience with regard to liability for damage resulting from disposal at sea carried out subject to their jurisdiction. If the text of the domestic law and public international law on civil and State liability, if quoted, is not in any of the working languages, it should be translated into one of them by the Party submitting such information. The Secretariat should also collect relevant information from other relevant organizations such as the UN Office for Ocean Affairs and the Law of the Sea, the IAEA and OECD.

6.14 The Meeting agreed that the report of the task team should also be made available to the third meeting of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea.

7 CONSIDERATION OF THE PROGRESS OF WORK ACHIEVED BY THE INTER-GOVERNMENTAL PANEL OF EXPERTS ON RADIOACTIVE WASTE DISPOSAL AT SEA (IGPRAD)

Outcome of IGPRAD meetings

7.1 The Chairman invited Mr. Voipio (Finland), the Chairman of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea (IGPRAD), to report on the progress achieved by the Panel. The Chairman of IPGRAD provided a summary report of the first and second meetings of the Panel as set out in paragraphs 7.2 to 7.24 below. The chairmen of the two IGPRAD Working Groups and the IAEA representative reported on the efforts made by the groups and agency, respectively, as reflected in paragraphs 7.25 to 7.29 below.

Progress report on the work of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea

7.2 The Panel had been established by resolution LDC.28(10) to undertake studies and assessments on:

.1 the wider political, legal, economic and social aspects of radioactive waste dumping at sea;

.2 the issue of comparative land-based options and the costs and risks associated with these options; and

.3 the question of whether it can be proven that dumping of radioactive wastes and other radioactive matter at sea will not harm human life and/or cause significant damage to the marine environment.

A questionnaire was prepared by the Tenth Consultative Meeting with a view to soliciting information from Contracting Parties on the above topics which the Panel was requested to evaluate. That questionnaire was annexed to resolution LDC.28(10).

7.3 At its first meeting the Panel (LDC/IGPRAD 1/6) evaluated the answers provided by Contracting Parties responding to the questionnaire mentioned above. The Panel then established two working groups with a view to developing on the basis of the responses, the comments and studies received

from Contracting Parties, an action list containing legal issues, political issues, social and economic issues, as well as the issue of comparative land-based options, and the costs and risks associated with the various disposal options. The question of whether it can be proven that any dumping of radioactive wastes will not harm human life and/or cause significant damage to the marine environment was also considered.

7.4 At the first meeting of the Panel several Contracting Parties volunteered to act as lead countries in carrying out studies during the intersessional period on the many issues identified for further assessment. These were:

Finland:	on several legal issues
Spain and Norway:	on a number of political issues
France:	on several social and economic aspects

A number of tasks were allocated to the Secretariat. The IAEA, in co-operation with other competent organizations working in the field of radioactive waste management, as well as GESAMP, were invited to consider the scientific and technical questions related to a comparison of land and sea disposal options, the costs and risks associated with these options, and the "proof of harm" question.

7.5 All Contracting Parties were invited to submit material on the tasks carried out by the lead countries, to provide studies and comments on issues not yet covered by lead countries, and to provide information to those international organizations, in particular the IAEA, which undertook to carry out studies in the scientific and technical field.

7.6 The Panel at its second meeting reconvened its two working groups, which evaluated the submitted material. The following paragraphs highlight the most relevant points of the second meeting of the Panel.

Legal issues

7.7 The study prepared by Finland examined existing conventions and international law regarding the uses of the sea and prevention of marine

pollution. In addition to a short assessment of the customary law on marine pollution, the report examined the provisions of a number of existing conventions relating to dumping, giving particular attention to the dumping of radioactive substances. The report on customary law provided a review of existing consultation mechanisms, provisions concerning the monitoring of harmful effects, and the duty to mitigate possible damage. The main outcome was that most conventions relating to marine pollution show clear preference against the dumping of radioactive wastes. If such an operation is, however, carried out it was indicated that it should take place under strict control and consultation mechanisms.

7.8 During discussion of the Finnish paper a number of comments were made which Finland agreed to take into account in a revised study. A further study will also be carried out by Finland drawing particular attention to customary international law. Both studies would be ready by late 1989.

7.9 The issue related to the examination of domestic laws controlling the dumping at sea of radioactive waste will be carried out by the Secretariat. Having been asked by the Secretariat for some guidance on the type of information that is needed in this context, the Panel agreed that domestic law should be evaluated as to whether sea disposal of high- and low-level radioactive waste is prohibited, regulated by a permit system or not mentioned at all. The Secretariat agreed to do this work by late 1989.

7.10 With regard to procedures for establishing liability and indemnification for loss or damage caused by dumping, the Panel agreed to refer this question for action to the Eleventh Consultative Meeting (see section 6 above).

Political issues

7.11 Spain acted as lead country on a number of political issues and provided a summary report on public opinion concerning radioactive waste dumping. The Panel invited other countries to carry out similar public opinion studies.

7.12 The Spanish delegation agreed to consult with its Government on the feasibility of carrying out some of the additional studies listed below. At

the same time, other delegations were encouraged to consider carrying out these studies or contributing to them. The studies in question include:

- additional national public opinion polls;

- the main factors influencing policy on sea dumping and storage of radioactive wastes; and

- the improvement of public information programmes.

7.13 Australia drew attention to the important role of the South Pacific Regional Convention on the Protection of the Environment (the SPREP Convention) concerning waste disposal at sea, in that the SPREP Convention not only imposes a prohibition of dumping of all radioactive wastes in its Convention area, but also defines in a descriptive way what should be understood by the term "radioactive wastes". Australia agreed to examine the many political factors leading to the adoption of that Convention.

Social and economic aspects

7.14 The cost-benefit analysis of dumping of low-level radioactive wastes at sea was discussed from political and social points of view on the basis of papers submitted by Norway and France, which acted as lead countries on the respective issues, as well as on material submitted by individual Contracting Parties, e.g. Nauru.

7.15 France expressed its readiness to continue to act as a lead country for social and economic issues, pending comments to be received from Contracting Parties as well as the outcome of work on comparative land-based aspects and on effects on the marine environment and human health carried out by other groups. Norway agreed to continue work, with input from other Contracting Parties on the conceptual cost-benefit model presented by Norway to the Panel.

Comparative land-based options to sea disposal

7.16 With regard to questions related to the evaluation of comparative assessments of the disposal of low-level radioactive wastes on land and their disposal at sea, the IAEA undertook to prepare a comprehensive study. In this connection the IAEA representative pointed out that IAEA Safety Series No.65 "Environmental Assessment of Methodologies for Sea Dumping of Radioactive Wastes" will be used as a main reference in reviewing the comparative assessments which have at this stage been made by Contracting Parties.

7.17 Much attention was also paid to the potential benefits of a comprehensive approach for the assessment and control of the sea disposal of all potentially toxic substances, without regard for whether or not they are radioactive. IAEA, and potentially GESAMP, will be studying the radiological and other scientific aspects related to a comprehensive approach to dumping of radioactive and non-radioactive wastes.

Proof of harm

7.18 On the question of the proof of harm, the Panel recognized the related work being carried out by the IAEA and GESAMP but also concluded that judgements such as the evaluation of the significance of damage do not necessarily fall solely into the field of scientific or technical considerations, although assessments of impacts must form the basis upon which judgements are made. The IAEA is also considering the question of damage which may be inflicted on the marine biota itself as a result of dumping that could potentially be carried out under existing provisions of the London Dumping Convention.

7.19 Related studies presently underway in the IAEA include a review and summary of scientific information on the estimation of risks to human well-being that could form a comparative basis for discussions within the London Dumping Convention. The IAEA is also developing exemption criteria which, once completed, may enable decisions to be made on wastes that may be dumped at sea under a general rather than a special permit.

7.20 The Panel agreed that future decisions should be taken in the broader context of risks associated with global climate and other large scale changes. This would provide a more balanced perspective of relative importance of concerns over waste dumping at sea with other more general concerns over the environment.

Future work

7.21 The Panel noted that a preliminary study on legal issues could be completed in late 1989, although this would have to be updated and expanded in the subsequent years. It was also noted that political issues could hopefully be to a large extent completed by 1990. Completion of social and economic issues may take more time, in particular as in the view of some countries these would have to be developed in conjunction with the results of scientific and technical studies, (e.g. evaluation of risks from sea dumping in relation to other risks, comparison of land and sea disposal options and effects of radioactive waste dumping on the marine environment and human health, etc.).

7.22 The scientific and technical studies to be organized by the IAEA and GESAMP will be carried out by expert groups over the next several years.

7.23 The Panel discussed its future work in the light of the schedules mentioned above and felt that the scientific and technical issues had been, as far as possible, addressed for the present. Additional work would therefore be deferred until after associated work had been completed by other appropriate international and intergovernmental bodies. The legal, political and socio-economic issues on the other hand, had produced a definite requirement for further work during 1989. There was a division of opinion amongst Panel representatives, however, on the question of future meetings. The options available to the Panel were as follows:

.1 a Panel meeting in 1989 dealing with legal, political and socio-economic issues;

.2 the meeting of a working group of the Panel (with no interpretation) in 1989 on these issues; and

.3 no meeting in 1989, preparation and distribution of documents on these issues by lead countries, consultants and the Secretariat, followed by a Panel meeting in 1990.

The majority of participants were in favour of option .3 above, although strong support for both the first and second options was also expressed. The Panel agreed that these views should be brought forward to the Consultative Meeting for decision.

7.24 In concluding his summary report, the Chairman of IGPRAD invited the two Working Group Chairmen from the Panel for their comments. Due to substantive IAEA contribution to the Panel's work programme, the representative from the IAEA was also asked to provide a brief overview of its input and work programme.

7.25 The two Chairmen of the Panel's Working Groups presented short overviews of the work allocated to their groups. The representative from the IAEA stated that his organization is currently assisting in responding to questions of a scientific and technical nature arising from the first IGPRAD Meeting. In addition, the IAEA is continuing with a work programme directly related to its mandate as expressed in the London Dumping Convention.

7.26 The IAEA representative further pointed out that at the time of the last revision of the definition of high-level radioactive waste unsuitable for dumping at sea, it was recognized that it may not be sufficient to base the considerations only on the protection of man. Radiation doses to deep sea organisms should also be calculated and their potential effects on species or ecosystems should be evaluated. IAEA Technical Report Series No. 288 entitled "Assessing the Impact of Sea Disposal of Low-level Radioactive Waste on Living Marine Resources" has been produced in response to these concerns and was considered by the second meeting of the Panel.

7.27 Another issue which arose at the time of the last revision of the IAEA definition of high-level radioactive waste unsuitable for dumping at sea, was the subject of "dose upper bounds". It was therefore considered necessary to

consider the issue of a dose upper bound for sea dumping of radioactive waste. An IAEA report on this subject is expected to be available in the next six months.

7.28 Another issue, which has been raised at the Consultative Meeting over many years, was the subject of exemption of radiation sources and materials from regulatory control. This is concerned with defining those materials which, though they contain small amounts of radionuclides, may be considered as "non-radioactive" for the purposes of the London Dumping Convention and therefore could be dumped under a general rather than a special permit. Very recently an international consensus was achieved on the "Principles for Exempting Radiation Sources and Practices from Regulatory Control". This was published as IAEA Safety Series No. 89 and was considered by the Panel to be an important contribution to its work.

7.29 In response to a question regarding the inventory of radioactive wastes entering the sea, the representative from IAEA stated that the IAEA is continuing its effort to develop an inventory of radionuclides in the marine environment. He concluded his general summary of IAEA activities by reaffirming that the Agency will continue to provide support in its role as adviser on radioactive wastes to the London Dumping Convention.

Comments by the Consultative Meeting

7.30 The Consultative Meeting was invited to comment on the progress of IGPRAD with particular emphasis on its future work programme. These comments are summarized below.

7.31 The Spanish delegation noted that the legal question of liability remained an outstanding item which was lagging far behind in the IGPRAD work programme. The delegation from Brazil stated that if the question of liability was to be dealt with in a reasonable time frame, the respective detailed work should start soon. The delegation from Nauru expressed similar concern on when and how the question of liability would be referred to IGPRAD.

7.32 The Meeting recalled that this question would in the first instance be addressed by a task team (see section 6 above). The results would be made available to the next meeting of the Panel.

7.33 The delegation from Ireland introduced two questions to the Meeting in the context of sea disposal of radioactive waste. That delegation sought clarification on the role of the Convention and the current moratorium on sea disposal of low-level radioactive waste (resolution LDC.21(9)) with respect to the disposal at sea of decommissioned nuclear-powered military vessels and the emplacement into the sea-bed or under the sea-bed of radioactive wastes. That delegation expressed its objections to these practices. Several delegations emphasized the need for these questions to be addressed by the Consultative Meeting.

7.34 The Chairman of the Consultative Meeting noted that article VII(4) of the Convention referred to vessels entitled to sovereign immunity under international law. It was also recalled that previous Consultative Meetings had already agreed that it was the appropriate forum to address questions concerning the disposal of high-level radioactive wastes and other matter into the sea-bed (LDC 10/15, paragraph 5.2). After some discussion on how best to proceed on the questions raised by Ireland, the Meeting agreed that the Secretariat should direct these questions to all Contracting Parties with a view to obtaining comments and suggestions for consideration at the Twelfth Consultative Meeting.

Future work of the Panel

7.35 The United States delegation expressed the view that the Panel was established to provide a more informed basis on a wide variety of legal, political, economic and scientific questions related to the sea disposal of low-level radioactive wastes. Attention was drawn to the need for a firm schedule to complete the work programme in order that the Consultative Meeting could reach a decision within a reasonable time frame.

7.36 The Meeting considered the options available for the next meeting of IGPRAD and, after some discussion, agreed that the Panel should meet

immediately before the next Consultative Meeting in October 1989. The Consultative Meeting also agreed that the 1989 Panel meeting should deal solely with legal, political, social and economic issues, and that another meeting of the Panel, which would also address scientific and technical issues, should be convened in 1990. The Meeting then agreed that the Secretary-General of IMO should be requested to propose to the governing bodies of IMO the allocation of provisions for a 1990 meeting of the Panel.

7.37 The observers from IUCN, Greenpeace and FOEI suggested that non-governmental international organizations be allowed to fully participate in future meetings of the Inter-Governmental Panel, since they could make constructive contributions to the work of that body.

7.38 The Chairman drew attention to the decision of the Tenth Consultative Meeting that the Panel should be comprised of governmental experts only ("Inter-Governmental Panel of Experts on the Disposal of Radioactive Wastes at Sea"). The Chairman, in noting that contributions from non-governmental organizations to the work of the Panel would be very welcome, suggested that the provisional agenda of Panel meetings also be sent to non-governmental organizations inviting them to submit papers for consideration by the Panel. In the case of a submission being received from a non-governmental organization, that organization would be invited by the Chairman of the Panel to present its paper immediately after the opening of a Panel meeting.

7.39 Several delegations supported this suggestion and the Meeting finally agreed to such a procedure.

8 THE DISPOSAL OF OFFSHORE INSTALLATIONS AND STRUCTURES

8.1 The Consultative Meeting had before it the following documents: LDC 11/8/Rev.1 (Secretariat), LDC 11/8/2 (Secretariat), LDC 11/8/1 (E & P Forum), and LDC 11/INF.22 (FOEI).

8.2 The Secretariat presented the background to the development of IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone adopted

by the Maritime Safety Committee (MSC) of IMO. The Meeting was invited to comment on the Guidelines and Standards as requested by MSC. The Meeting noted that comments had also been sought from FAO and UNEP and that the final version would be submitted to the IMO Assembly at its sixteenth session in late 1989 with a view to adoption.

8.3 The observer from the Oil Industry International Exploration and Production Forum (E & P Forum) expressed his organization's full support of the IMO Guidelines and Standards. He also referred to established industry procedures for the plugging of wells, flushing pipe-work and the removal of residual chemicals to reception facilities. The observer from E & P Forum believed that the implementation of the Guidelines and Standards with the application of such established technology to the full or partial removal of offshore installations should both ensure that there would be no pollution of the marine environment and that the area unavailable to bottom trawling would be very small.

8.4 The observer from the Friends of the Earth International (FOEI) indicated that FOEI considered the Guidelines in their present form to be incomplete as IMO bodies had to restrict their evaluation on topics related to navigation (LDC 11/INF.22). FOEI stressed that it believed that final decisions regarding the adoption of the guidelines by the IMO Assembly should only be requested after all competent bodies, including the Consultative Meeting, have been able to address all factors relevant to the removal of offshore platforms.

8.5 The observer from the Oslo Commission pointed out that under this agenda item two separate problems should be considered. While the Guidelines and Standards under consideration dealt with the removal of platforms, another problem so far unaddressed was related to the disposal of removed platforms. He also informed the Meeting that the Oslo Commission had carried out a survey of the number and types of platforms in the Oslo Convention area, the depths of water in which they were located and the removal strategies and disposal policies of its Parties (LDC 11/8/2). It was further noted that a workshop will be convened in France in February 1989 to consider the technical and environmental aspects of platform disposal and that this will be held with the

participation of respective industries. The outcome of the workshop will be discussed by the Scientific Advisory Committee of the Commission (SACSA) and also brought to the attention of the Scientific Group on Dumping of the London Dumping Convention.

8.6 The observer from the International Union for Conservation of Nature and Natural Resources (IUCN) expressed the view that the IMO Guidelines and Standards did not adequately address environmental concerns. He pointed out that "removal" and "disposal" were closely linked and that it would not be easy to separate them. He was also of the opinion that guidelines for the disposal of removed platforms should be prepared for the London Dumping Convention and then incorporated into the subject IMO Guidelines and Standards on Removal, so that all aspects of removal and disposal could be covered.

8.7 A number of delegations expressed their approval of the work that had been undertaken by IMO in the preparation of the Guidelines and Standards for the Removal of Offshore Installations and Structures. They proposed that the Scientific Group on Dumping should be tasked with looking at the related question of disposal. In this regard it was accepted that environmental concerns would be covered.

8.8 After discussion, the Meeting agreed that:

.1 the Guidelines and Standards as prepared by IMO were acceptable from the viewpoint of the London Dumping Convention; and

.2 matters related to disposal of removed platforms and other structures should be included in the agenda of the next meeting of the Scientific Group, with a view to preparing draft guidelines.

8.9 The Netherlands delegation emphasized the need for the consideration in the near future of legal and jurisdictional aspects relevant to controlling and preventing marine pollution from structures and installations abandoned at sea, toppled at site or placed at the sea bottom as artificial reefs (LDC 11/8/Rev.2, paragraph 3.3). The Meeting agreed that all Contracting Parties should submit to the Secretariat, during the intersessional period,

legal questions and comments related to the abandonment, disposal, placement on the sea-bed, etc., of offshore installations and structures.

9 INTERPRETATION OF THE FORCE MAJEURE CLAUSE OF ARTICLE V(1) OF THE CONVENTION

9.1 The Meeting recalled that the need for authoritative advice and clarification concerning the interpretation of article V(1) in cases of force majeure had first been raised at the Ninth Consultative Meeting. At that time it had been agreed that, before considering the question as to whether the jettisoning overboard of cargo from non-dumping vessels would fall under the force majeure provisions of article V(1) of the London Dumping Convention or not, the advice of the IMO Marine Environment Protection Committee (MEPC) should first be sought, bearing in mind that all of the Annexes of MARPOL 73/78 contain force majeure provisions. MEPC's conclusions in this regard were subsequently reproduced in LDC 10/9, paragraph 3, viz that in the view of the MEPC the force majeure requirements of article V(1) of the London Dumping Convention would apply only to vessels loaded for the purpose of dumping (or incineration) of waste or other matter at sea, and would not extend to the jettisoning of cargo which had been loaded solely for transport purposes.

9.2 The Meeting further recalled that there had been a divergence of views at the Tenth Consultative Meeting when this matter was discussed: some delegations concurred with the MEPC's interpretation while others felt that article V(1) of the London Dumping Convention was applicable to force majeure situations involving any type of vessel. That Meeting had concluded that it would be better to reach an operationally practical solution concerning notification and reporting schemes rather than endeavouring to reach an agreed legal interpretation. Contracting Parties were accordingly invited to provide any relevant information and comments on this matter (LDC 10/15, paragraph 9.12).

9.3 The Meeting had before it a summary of responses to the above invitation by six Contracting Parties as summarized by the United States acting as lead country (LDC 11/9/1).

9.4 In noting that reports of action taken under force majeure situations may arise under both the MARPOL and London Dumping Convention regimes, the Meeting agreed that for those States that were both Parties to the London Dumping Convention and MARPOL 73/78 the practical solution to this problem was for national shipping authorities receiving reports under MARPOL 73/78 and the national authorities dealing with the implementation of the London Dumping Convention to work together to ensure that all contingencies were covered. The latter authorities could then decide whether a report should be made to the Secretariat.

9.5 The Meeting was informed by the Secretary of recent developments relating to Annex V of MARPOL 73/78, which concerned the prevention of pollution by garbage from ships, that might materially improve the situation in respect of jettisoning overboard spoilt cargo. Annex V would enter into force on 31 December 1988, at which time over 50% of the world's merchant tonnage would be required to comply with the international regulations. In order to assist with practical aspects of garbage collection and disposal from ships, the Marine Environment Protection Committee (MEPC) had adopted guidelines on the implementation of Annex V at its twenty-sixth session in September 1988. The Committee had agreed to give attention at future sessions to the problem of animal waste and animal carcasses arising from the carriage of livestock, which had been a particular problem in the Gulf area.

10 CO-OPERATION AND INFORMATION EXCHANGE

10.1 Increasing the participation of Contracting Parties in the work of the Convention

10.1.1 On several occasions during the Meeting concern was expressed that more efforts should be made to promote active participation of Contracting Parties in the work of the Convention and also to increase the number of Contracting Parties to the Convention. It was noted that the IMO Secretary-General had regularly issued Circular letters to governments with this intent. The Meeting felt that participation was inadequate in the area of:

.1 lack of response to circular letters, questionnaires, and other correspondence;

.2 failure by some countries to report dumping that is known to have taken place, and by others to confirm each year that dumping has not taken place, as the case may be; and

.3 some reluctance by many countries to prepare and submit documentation to London Dumping Convention meetings.

10.1.2 Some measures were suggested that could contribute to raising the awareness of the London Dumping Convention and the various activities taking place within its framework, for example:

.1 the preparation of booklets and articles (e.g. for inclusion in the the IMS Newsletter and Marine Pollution Bulletin, etc.);

.2 further approaches by the Secretary-General of IMO inviting countries not Contracting Parties to the London Dumping Convention to become members;

.3 presentations and missions to selected countries by IMO staff;

.4 greater efforts on the part of Contracting Parties to prepare and submit documentation to meetings;

.5 identification of sources for the provision of financial support for participation of developing countries in Consultative and other meetings, as it was realized that a number of developing countries would, even if they became Contracting Parties, find it difficult to attend all meetings. It was noted that IMO itself was unable to assist in this respect and that informal discussions between the Secretariat and funding agencies had also revealed that there was no possibil ty to support delegations from developing countries in attendin meetings organized under the London Dur ing Convention.

10.1.3 It was noted that articles about or relevant to the London Dumping Convention had been regularly prepared by the Secretariat for the Unesco International Marine Science (IMS) Newsletter which has a wide distribution.

In noting that the IMS Newsletter was circulated regularly by the Secretariat under LDC Circulars, the Meeting expressed appreciation to Unesco for its valuable co-operation in this regard.

10.1.4 The Secretariat reiterated the importance that Contracting Parties submit reports on dumping or incineration at sea, including NIL reports.

10.2 Promotion of technical assistance

10.2.1 The Meeting noted the assistance provided by the Swedish International Development Authority (SIDA) through the IMO/SIDA Programme for the Protection of the Marine Environment and by the United Nations Environment Programme (UNEP) in support of seminars/symposia related to disposal of wastes at sea, in the context of a comprehensive waste management policy. The Meeting expressed its gratitude for this support.

10.2.2 The Meeting was informed of plans for a national seminar on waste disposal at sea in Jamaica and a regional seminar in West Africa for 1989/1990, as well as a national seminar in China on this topic in 1989.

10.3 Relations with other organizations

Oslo Commission

10.3.1 The Secretary of the Oslo Commission presented a report on the Commission's activities in 1987 and 1988 (LDC 11/10), several items of which are already covered under other sections of this report. He further informed the Meeting that the Commission had decided to amend the Oslo Convention so as to include dumping in internal waters; it had also decided to terminate incineration by Contracting Parties to the Oslo Convention and within the Oslo Convention area by 31 December 1994 and that a resolution had been adopted concerning the export of wastes for disposal at sea, which contained the same principles as resolution LDC.29(10) adopted on this issue by the Tenth Consultative Meeting.

International Conference on the Protection of the North Sea

10.3.2 The Meeting noted that the Second International Conference on the Protection of the North Sea (London, 24-25 November 1987) had adopted measures for reducing the dumping of wastes in the North Sea area, for phasing out incineration in the North Sea by 31 December 1994, and for improving the control of discharges and disposal of radioactive wastes at sea (LDC 11/10/1).

10.3.3 The observer from Greenpeace International emphasized the active roles of non-governmental international organizations in connection with the North Sea Conference and the degree of recognition of their input in this inter-governmental forum. He further expressed satisfaction that the "Precautionary Principle" had been accepted in the Ministerial Declaration, but that it had not featured in the report on the Conference prepared by the Secretariat and distributed to this Meeting (LDC 11/10/1)*. Greenpeace urged delegates to consider the implications of this important principle for decision-making, particularly with regard to the role of scientific evidence.

10.3.4 The delegation of the Federal Republic of Germany confirmed that the acceptance of the "principle of precautionary action" was one of the outstanding achievements of the Second Conference on the Protection of the North Sea (London, November 1987). This principle had been taken into account in the implementation of environmental legislation of the Federal Republic of Germany for more than one decade. When the Ministers of the North Sea States agreed during that Conference to reduce the input by 50% of hazardous substances and nutrients in the North Sea by 1995 - based on 1985 figures - they did so for precautionary reasons. That delegation further pointed out that for the protection of the North Sea and the Baltic Sea a ten point list of measures had recently been submitted to its Parliament aiming at the reduction of inputs of contaminants into the North Sea and the Baltic Sea by 50% - if possible before 1995 - including the termination of sea disposal of

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* Note by the Secretariat:

The full text of the Second International Conference on the Protection of the North Sea (Ministerial Declaration) had been distributed by the Secretariat under LDC.2/Circ.220 of 5 September 1988.

industrial wastes in 1989 and of incineration of wastes at sea by the end of 1994.

Group of Experts on the Effects of Pollutants (GEEP)

10.3.5 The Meeting noted with satisfaction that the IMO Council had agreed that IMO should co-sponsor the IOC Group of Experts on the Effects of Pollutants (GEEP). The Meeting was also informed that a number of items of interest to the London Dumping Convention had been placed on the agenda of GEEP and other IOC advisory groups (LDC 11/INF.11, LDC 11/INF.15). Among those items were the following:

- monitoring of residues from incineration at sea
- field verification of laboratory test data
- biological effects of incipient contamination
- symposia on waste management and disposal at sea
- monitoring

Marine Environment Protection Committee (MEPC) of IMO

10.3.6 The Meeting was informed of the action taken by MEPC in furthering the work related to the identification of Particularly Sensitive Sea Areas (LDC 11/INF.15). The Secretariat was requested to keep the Consultative Meeting informed on activities undertaken by MEPC on this subject.

10.4 Transboundary transport of hazardous wastes

Previous LDC activities

10.4.1 The Meeting recalled that in 1986 it had adopted resolution LDC.29(10) on the Export of Waste for Disposal at Sea, and that the Secretariat had circulated a list with the names of national authorities responsible for receiving advance notification of such movements (LDC 10/15, paragraph 6.7).

Activities of the United Nations Environment Programme (UNEP)

10.4.2 The Meeting was informed of the activities of UNEP in having convened an ad hoc group of legal and technical experts (Caracas, 6 10 June 1988) to prepare a global convention on the control of transboundary movements of hazardous wastes (LDC 11/10/2). The UNEP meeting agreed to base the

definition of hazardous wastes on a core list of categories and characteristics of wastes supplemented by the national legislation of the countries concerned. General agreement had also been reached on the procedure requiring advance notification on transboundary shipment of such wastes to countries of import and transit, on the establishment of a prior informed consent mechanism for importing countries (the question of a prior informed consent mechanism for transit countries was not yet resolved) and on the duty to reimport wastes when a movement could not be completed as foreseen.

10.4.3 The Meeting was also informed by ACOPS that the above mentioned ad hoc group will hold its next session in Geneva from 7-16 November 1988 and that further meetings of that group are planned from 30 January to 3 February 1989 and from 13 to 17 March 1989. A diplomatic conference for adoption and signature of the Convention will be convened in Basel, Switzerland, from 20 to 22 March 1989.

Activities of the Adivsory Committee on Pollution of the Sea (ACOPS)

10.4.4 The ACOPS observer also informed the Meeting of its own international conference on trade in toxic wastes scheduled to take place after the IMO Assembly in 1989. Details of that conference will be communicated to Contracting Parties by ACOPS in due course.

Activities of Sweden

10.4.5 The Meeting also noted the outcome of an international workshop on hazardous wastes convened in Stockholm (7 to 10 June 1988) by the Swedish Ministry of Environment and Energy.

IMO activities

10.4.6 The Meeting noted (LDC 11/10/3) that a number of international organizations and Member States of IMO had called for international action to regulate the shipment of hazardous wastes and that IMO, within its mandate, should contribute to the development of an international legal framework in this regard.

10.4.7 The Meeting was informed of the outcome of considerations on the transport of hazardous wastes held by the Marine Environment Protection Committee (MEPC) at its twenty-sixth session, and by the IMO Sub-Committee on the Carriage of Dangerous Goods (CDG) at its forty-first session (LDC 11/INF.14). This information was supplemented by an oral report given by Capt. H. Wardelmann, Head of the IMO Cargoes Section. The Meeting noted that both the above bodies had been informed of the UNEP activities in this field (see paragraph 10.4.2 above) as well as of the action taken by the UN Group of Rapporteurs of the Committee of Experts on the Transport of Dangerous Goods, partly in co-operation with UNEP, OECD and EEC.

10.4.8 MEPC, noting the various international activities, recognized that pollution prevention aspects of the maritime transportation of hazardous wastes fell within IMO's regulatory framework and that MEPC was the IMO body responsible for dealing with such matters. The CDG Sub-Committee noted that in the future, two regimes will exist: UNEP regulations for the transfrontier movement of hazardous wastes, and the existing procedures for the transport of dangerous goods (including certain hazardous wastes) which are based on UN recommendations. The Sub-Committee requested its members to ensure that the above regimes would not contradict each other and to keep themselves informed of developments as well as to consult with other departments or ministries involved at the national level.

Activities of the International Maritime Bureau

10.4.9 The Meeting was also informed of the activities of the International Maritime Bureau (IMB) which has established a telephone waste hotline with a view to gathering information on unregulated dumping of hazardous wastes at sea (LDC 11/INF.9).

Activities of the UN General Assembly (UN resolution 42/183)

10.4.10 The Meeting was informed of the outcome of UN resolution 42/183 on the traffic of toxic and dangerous products and wastes, by which international organizations and Governments were requested to provide UNEP with information on instances of such illegal traffic. It noted that a preliminary report (LDC 11/INF.12) contained reference to sixteen replies, of which seven cited concrete examples of illegal traffic in toxic wastes.

10.4.11 The Meeting recalled that all Contracting Parties had been invited by the Secretariat (LDC.2/Circ.212 of 18 February 1988) to provide information on any known cases during the past five years where wastes or other matter had been illegally imported in their countries for dumping or incineration at sea (LDC 11/INF.10).

Action taken by the Consultative Meeting

10.4.12 The Meeting requested Contracting Parties and the Secretariat to monitor the progress of the development of UNEP's Convention on transboundary movement of hazardous wastes, especially insofar as it relates to export of waste for dumping or incineration at sea, and to report on this matter to future Consultative Meetings.

10.4.13 Concerning the activities of the International Maritime Bureau (IMB) (see paragraph 10.4.9 above), the Secretariat was requested to maintain close contact with the IMB and to report any information received on dumping at sea to the Consultative Meeting.

10.4.14 The Meeting, noting that there had so far been very few responses to circular LDC.2/Circ.212 concerning the illegal import of wastes for dumping and incineration at sea (see paragraph 10.4.11 above), agreed that Contracting Parties which have not yet submitted information should do so as soon as possible.

10.4.15 In response to a request for a better reporting system on potantial problems concerning the illegal export of wastes, the Meeting requested the Secretariat to investigate the other reporting and notification procedures established within IMO to ascertain whether some of these would provide guidance for the adoption of a suitable mechanism under the London Dumping Convention.

11 FUTURE WORK PROGRAMME AND DATE OF NEXT SESSION

Action Plan for the Consultative Meeting

11.1 The up-dated Action Plan prepared by the Secretariat (LDC 11/11) was reviewed. The Meeting noted that attempts had been made to modify the document so as to render it a useful reference document for accomplished actions and at the same time providing an action list for ongoing and envisaged work.

11.2 The Meeting agreed that a separate list, containing projected actions of the different bodies operating under the Consultative Meeting for each of the following three years should be prepared, so that for each activity its phasing, and the individual meetings concerned could be readily seen (see also paragraph 3.48 above).

Future work programme of the Consultative Meeting and the Scientific Group on Dumping

11.3 The Meeting agreed on the substantive items to be included in the preliminary agendas of the next Consultative Meeting and the twelfth meeting of the Scientific Group on Dumping, as shown at annex 8.

Dates of the Twelfth Consultative Meeting

11.4 Several delegations proposed that the Twelfth Consultative Meeting be held in 1990 rather than in autumn 1989. This would provide more intersessional time necessary for carrying out studies and reports which Contracting Parties and the Secretariat had undertaken to prepare for consideration at the Twelfth Consultative Meeting. Other delegations pointed out that there was an urgent need to evaluate the results of the third meeting of IGPRAD immediately after that meeting had been held and to consider at an early stage the material to be collected by the task team on liability.

11.5 After lengthy discussion of the workload and the respective time schedules, the Meeting agreed that the Twelfth Consultative Meeting should be convened from 16 to 20 October 1989.

Meetings of subsidiary bodies

11.6 The Consultative Meeting agreed that:

.1 the third meeting of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea (IGPRAD 3) should be scheduled for 9-13 October 1989 with a view to considering legal, political and socio-economic issues related to radioactive waste disposal at sea;

.2 a meeting of the Scientific Group on Dumping should be held from 10 to 14 April 1989;

.3 a meeting of the "LDC Annex Working Group" should be convened in early February 1989, prior to the meeting of the Scientific Group; and

.4 a meeting of the task team on liability should be convened in July 1989 and, if necessary, again in September 1989.

Budgetary provisions for 1989

11.7 The Meeting welcomed the information that the IMO Council has made budgetary provisions for convening two meeting weeks with interpretation for 1989.

11.8 Expressing appreciation to the Secretary-General of IMO for having provided all the required support during the intersessional period for carrying out the secretariat duties with regard to the London Dumping Convention, the Meeting requested the Secretary-General to assure that in 1989 the necessary provisions will again be made available for such activities. This would include the advisory services provided by GESAMP on many issues related to waste disposal at sea, as well as provision for the task team on liability matters related to pollution from dumping and the re-evaluation of incineration at sea. The latter will necessitate the collection of information on hazardous waste production and associated management approaches from all industrialized countries, with particular emphasis on the practical

availability of environmentally-acceptable land-based disposal facilities. The co-operation of other international organizations would be essential in completing that task.

Budgetary provisions for the 1990/1991 biennium

11.9 Reviewing its work programme for the 1990/91 biennium, the Meeting requested the Secretary-General to ensure that the necessary provisions be included in the budget for the next biennium 1990/1991 to cover all activities to be carried out within the framework of the London Dumping Convention, including the convening of two Consultative Meetings, and two meetings of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea. The necessary budgetary provisions should be allocated to the IMO Marine Environment Protection Fund for advisory and consultancy services related to co-operation with other bodies working in the field of marine pollution prevention from dumping at sea, and to promoting the effective implementation of the London Dumping Convention.

12 ANY OTHER BUSINESS

Interpretation of MARPOL 73/78, Annex II in respect of ships engaged in dumping

12.1 The Meeting noted the interpretation of Annex II of MARPOL 73/78 in respect of ships engaged in dumping operations, together with explanatory notes thereto (LDC 11/12) which, at the request of the twenty-fifth session of the Marine Environment Protection Committee (MEPC) of IMO, had been brought to the attention of the Meeting. The Meeting confirmed the MEPC interpretation that liquid chemical wastes being transported for dumping at sea should be classified as pollution category A substances under Annex II of MARPOL 73/78, i.e. tank washings have to be discharged at the dumpsite designated by the responsible national administration together with the cargo of wastes, or to a shore reception facility. In this connection the Meeting further agreed that Contracting Parties to the London Dumping Convention should ensure that any ships flying the flag of a non-Contracting Party to MARPOL 73/78 engaged in a dumping operation for which a permit has been issued under the London Dumping Convention should observe these principles.

Side-cast and agitation dredging

12.2 The Meeting was informed of discussions held within the framework of the Oslo Convention concerning the control of the environmental impact of side-cast and agitation dredging and as to whether these should be considered as falling under the dumping provisions of that Convention (LDC 11/12/1). The Meeting also took note of the definitions of these techniques, as drawn up by the Oslo Commission. In noting that the dumping provisions of the Oslo Convention were compatible with those of the London Dumping Convention, the Meeting considered that a common approach to the control of the environmental impact of side-cast and agitation dredging would be desirable.

12.3 The observer of IAPH explained that agitation dredging involved stirring up the sediment so that it is carried away by water currents. In the case of side-cast dredging, the sediment is disposed of in the immediate area of dredging without involving the loading of the material on vessels for disposal. The techniques were further described by the observer of PIANC who concurred with the IAPH observer that in the view of PIANC neither would fall within the definition of dumping in article III(1) of the London Dumping Convention. Several delegations agreed with this view.

12.4 The delegation of the Federal Republic of Germany supported the view that agitation dredging would not fall under the provisions of the London Dumping Convention. However, with regard to side cast dredging, that delegation recognized that this method was often used for separating different sediment fractions, and that this could result in vast areas being smothered by fine-grained material. In the view of the Federal Republic of Germany, the dumping conventions were the appropriate instruments to control such impacts.

12.5 The United States delegation informed the Meeting that the above techniques were used mainly in internal waters and that in the United States these methods were regulated by domestic law.

12.6 The observer from the Oslo Commission informed the Meeting that questions related to side-cast and agitation dredging, particularly in regard to their environmental impact, are being addressed by the Commission's

scientific advisory committee (SACSA). The main causes for concern were physical smothering or alteration of the seabed, mobilization of contaminants, reduction of primary production and unsightly discharge plumes. The Commission had agreed that the question as to whether side-cast and agitation dredging should be controlled under the provisions of the Oslo Convention would be considered in 1991 in connection with a review of the Commission's Guidelines for the Disposal of Dredged Material.

12.7 The Meeting agreed that the Secretariat should further monitor the outcome of discussions currently being held on this matter within the framework of the Oslo Convention, and that the Scientific Group on Dumping be kept informed of the action taken on this matter by the scientific advisory committee (SACSA) of the Oslo Commission. This question could be raised again at a later date. In the meantime, the outcome of the Oslo Commission's considerations would be awaited with interest.

IMO booklet entitled "Strategy for the protection of the marine environment"

12.8 In taking note of the subject booklet (LDC 11/INF.4), the Meeting agreed that any comments that delegations may have on the booklet's contents should be communicated to the Secretariat in writing.

Sinking and fate of the chemical tanker "Brigitta Montanari" - ecological considerations

12.9 The Meeting noted with interest a presentation by the Yugoslavian delegation describing the ecological monitoring programme conducted in connection with salvage operations to recover the cargo of vinyl chloride monomer (VCM) from the chemical tanker "Brigitta Montanari" (LDC 11/INF.7).

12.10 The Meeting welcomed the above information and requested Yugoslavia to make copies of its report available to the Secretariat for subsequent distribution to Contracting Parties.

Plastic marine debris

12.11 The United States delegation informed the Consultative Meeting that the United States on 30 December 1987 deposited its instrument of ratification for

MARPOL 73/78, Annex V, with IMO. Annex V will enter into force internationally on 31 December 1988. The United States encouraged other Contracting Parties to the London Dumping Convention that are also parties to MARPOL 73/78, to ratify Annex V of MARPOL 73/78 as soon as possible.

12.12 The United States further informed the Meeting that its National Oceanic and Atmospheric Administration (NOAA) will convene the Second International Conference on Marine Debris, from 2 to 7 April 1989 in Honolulu, Hawaii. This Second International Conference on Marine Debris is intended to provide a forum to present and evaluate the various aspects of marine debris problems and potential solutions. Contracting Parties were invited to attend and to submit papers for presentation at the Conference. Additional information about the Conference can be obtained through the Secretariat.

12.13 The United States delegation also announced that a report of the United States Interagency Task Force on Persistent Marine Debris could be made available upon request. This report provides a thorough analysis of the problems associated with persistent marine debris and contains descriptions of activities being undertaken within the United States to combat these problems. It also describes recommendations for further actions.

Disposal of cars from the car-carrier "Reijin"

12.14 The Danish delegation noted that at the end of July 1988 the Portuguese authorities issued a permit for disposal at sea of cars from the wreck "Reijin" which stranded at the Portuguese coast. The wreck contained about 5,500 cars of which about 2,000 have already been dumped. The cars contained, among other things, oil which is an Annex I substance and as such is prohibited to be dumped at sea.

12.15 The Danish delegation further pointed out that before issuing a sea dumping permit, the availability of alternative land-based disposal and treatment options should have been considered. That delegation failed to understand why it was not possible to dispose of the cars on land. Denmark deeply regretted that the Portuguese authorities issued the dumping permit which, in the view of Denmark, was in contravention of the provisions of the London Dumping Convention.

12.16 The Portuguese delegation, in response to the above statement, emphasized that its national authorities also regretted, probably more than any others, the steps they had been forced to take, but that these had been, in their opinion, the only viable ones that could prevent much more harmful effects to the marine environment. The Portuguese delegation then gave a brief account of the events, as follows:

.1 on 27 April 1988, car-carrier Reijin, on leaving the port of Leixoes, listed heavily, turned half over, lost all power, was adrift for some time, and finally ran aground and partially sank in a depth of 15 metres, on position 4106N 0840W;

.2 the ship had a registered tonnage of 58,000 and was transporting 5,432 Japanese made cars;

.3 the ship owner is Emerald Shipholding, SA of Panama, a company of Japanese capital and its only valuable asset was the ship Reijin, which was brand new;

.4 under Portuguese law, the ship owner maintained full rights over the grounded ship;

.5 during the months of May and June, the owner studied the possibility of salvaging the ship, and, in principle, this did not appear to be out of the questions and seemed at least to be worth trying, given that the value of the ship plus cargo was somewhere in the region of US$ 100,000,000. Fuel and lubricants were removed from the ship. No immediate threat of marine pollution was apparent;

.6 before 13 July, there was no indication that a dumping operation might have to be launched;

.7 on 13 July, the owner declared the ship to be irrecoverable, taking upon himself the responsibility for the removal of the wreck and cargo, but only under certain conditions which specifically called for the dumping of both at sea;

.8 under Portuguese law, owners have the legal obligation of removing wrecks which belong to them and which are deemed to constitute a danger, but it is well known that, in practical terms, this obligation very often cannot be enforced;

.9 the Portuguese authorities sought, and were given, advice from CNCPM - the national consultative body concerned with marine pollution - and were fully aware that the owner's conditions did not entirely comply with all the requirements of some international conventions, of which Portugal was a Contracting Party, and did not provide enough time for consultation;

.10 on the other hand, the Portuguese national authorities could not take over the task of removing the wreck themselves as they did not possess the technical, financial or even legal means for doing so before the autumn bad weather, the onset of which is usually after the end of September, with the equinoctial tides;

.11 it should be stressed that the financial cost of such an operation runs in the order of $15,000,000 and, as naturally no provision had been made in the current State budget to cover such an expense, the necessary official arrangements could not be made at short notice;

.12 Portugal was clearly faced with an emergency, one which had not quite been envisaged by the Conventions, but, nevertheless, no less real;

.13 no practical alternatives were available for solving such an emergency, and Portugal did not have the time for consultation with other Contracting Parties of the respective conventions; unless the ship was removed before the usual autumn bad weather, she would be destroyed by the seas, and wreckage and cargo would be dispersed along the coast, in shallow waters, with all the damage this would inflict upon the marine environment;

.14 dumping in deep water therefore had to be accepted as a disposal method which under the circumstances was the best option.

12.17 Greenpeace International expressed its concern about the on-going sea disposal of several thousand cars by Portugal following the sinking of the Japanese car carrier just outside a Portuguese port. This operation was stated to be in violation of both the Oslo Convention and the London Dumping Convention, as substantial quantities of both black-list and grey-list materials are involved. Greenpeace requested that Contracting Parties give direction to the Government of Portugal to consider a salvage operation which would allow the use of land-based recycling and disposal methods.

12.18 The observer of FOEI informed the Meeting that his organization had been approached by some of its member groups, including FOE Portugal, expressing their concern on this issue. The FOEI observer supported the points made above by Denmark and Greenpeace.

13 ELECTION OF CHAIRMAN AND VICE-CHAIRMEN

In accordance with Rule 19 of the Rules of Procedure*, the Consultative Meeting at the conclusion of the meeting unanimously re-elected Mr. G. L. Holland (Canada) as Chairman. Ms. Satu Nurmi (Finland) and Vice-Admiral H. A. da Silva-Horta (Portugal) were unanimously elected First and Second Vice-Chairmen respectively.

14 CONSIDERATION AND ADOPTION OF THE REPORT

The report of the Eleventh Consultative Meeting was considered and adopted on the final day of the Meeting (7 October 1988).

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* Note by the Secretariat:

Rule 19 provides that the Chairman and the two Vice-Chairmen may not hold the same office continuously for more than four years. In the light of cases where the intersessional period has been extended to more than twelve months (between the Sixth and Seventh Consultative Meetings and between the Tenth and Eleventh Consultative Meetings) the Consultative Meeting interpreted the "4-years rule" as meaning "for more than four consecutive Meetings".

ANNEX 1

AGENDA FOR THE ELEVENTH CONSULTATIVE MEETING

1 Adoption of the Agenda

LDC 11/1	-	Secretariat
LDC 11/1/1	-	Chairman
LDC 11/1/2	-	Secretariat

2 Status of the London Dumping Convention

LDC 11/2	-	Secretariat
LDC 11/2/1	-	China
LDC 11/2/2	-	Secretariat

3 Consideration of the report of the Scientific Group on Dumping

LDC 11/3	-	Secretariat
LDC 11/3/1	-	Secretariat
LDC 11/3/2	-	Secretariat
LDC 11/INF.17	-	IAPH
LDC 11/INF.23	-	United States and IUCN

4 Matters relating to incineration of wastes and other matter at sea

LDC 11/4	-	Secretariat/Denmark
LDC 11/4/Corr.1	-	Secretariat/Denmark
LDC 11/4/1	-	Secretariat
LDC 11/4/2/Rev.1	-	Secretariat
LDC 11/4/3	-	Secretariat
LDC 11/4/3/Corr.1	-	Secretariat
LDC 11/4/4	-	Secretariat
LDC 11/INF.3	-	FOEI
LDC 11/INF.5	-	AMI
LDC 11/INF.6	-	AMI
LDC 11/INF.16	-	AMI
LDC 11/INF.19	-	Federal Republic of Germany
LDC 11/INF.21	-	AMI

5 Implications regarding the Law of the Sea Convention for the London Dumping Convention

LDC 11/5	-	Secretariat
LDC 11/5/1	-	Secretariat
LDC 11/INF.13	-	Secretariat

6 Procedures for the assessment of liability concerning damage to the environment caused by dumping at sea

LDC 11/6	-	Secretariat
LDC 11/6/1	-	Secretariat
LDC 11/6/2	-	FOEI
LDC 11/6/3	-	FOEI
LDC 11/6/4	-	Spain
LDC 11/INF.2	-	FOEI
LDC 11/INF.18	-	Nauru
LDC 11/INF.20	-	Greenpeace International

7 Consideration of the progress of work achieved by the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea

LDC/IGPRAD 2/WP.3 Secretariat

8 The disposal of offshore installations and structures

LDC 11/8/Rev.1	-	Secretariat
LDC 11/8/1	-	E & P Forum
LDC 11/8/2	-	Secretariat
LDC 11/INF.22	-	FOEI

9 Interpretation of the force majeure clause of Article V(1) of the Convention

LDC 11/9	-	Secretariat
LDC 11/9/1	-	United States

10 Co-operation and information exchange

LDC 11/10	-	Oslo Commission Secretariat
LDC 11/10/1	-	Secretariat
LDC 11/10/2	-	Secretariat
LDC 11/10/3	-	Secretariat
LDC 11/INF.8	-	Secretariat
LDC 11/INF.9	-	Secretariat
LDC 11/INF.10	-	Secretariat
LDC 11/INF.11	-	Secretariat
LDC 11/INF.12	-	Secretariat
LDC 11/INF.13	-	Secretariat
LDC 11/INF.14	-	Secretariat
LDC 11/INF.15	-	Secretariat

11 Future work programme and date of next session

LDC 11/11	-	Secretariat

12 Any other business

LDC 11/12	-	Secretariat
LDC 11/12/1	-	Secretariat
LDC 11/INF.4	-	Secretariat
LDC 11/INF.7	-	Yugoslavia

13 Election of Chairman and Vice-Chairmen

No documents

14 Consideration and adoption of the report

LDC 11/14	-	Report
LDC 11/WP.1	-	Secretariat
LDC 11/WP.1/Add.1	-	Secretariat

LDC 11/INF.1	-	List of participants

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ANNEX 2

RESOLUTION LDC.30(11)

PARTICIPATION OF NON-GOVERNMENTAL INTERNATIONAL ORGANIZATIONS IN MEETINGS OF THE LONDON DUMPING CONVENTION

THE ELEVENTH CONSULTATIVE MEETING,

RECOGNIZING the value of open discussion and exchange of information on matters relating to the protection of the marine environment,

NOTING the London Dumping Convention Rules of Procedure numbers 3 and 4 relating to the participation of observers in meetings of the Contracting Parties,

RECALLING the important contributions made by non-governmental international organizations to the purposes and objectives of the London Dumping Convention,

RECOGNIZING FURTHER the need to ensure that non-governmental international organizations act in a manner consistent with the basic purposes of the Convention and its rules governing the participation of such organizations,

RECALLING FURTHER the request of the Tenth Consultative Meeting for the Chairman to review during the intersessional period all aspects governing participation by non-governmental international organizations relating to the Convention,

HAVING CONSIDERED the report of the Chairman submitted to the Eleventh Consultative Meeting,

ADOPTS the following guidance relating to the participation of such organizations:

The observer status of non-governmental international organizations shall be governed by rules 3 and 4 of the London Dumping Convention Rules of Procedure, the procedures adopted by the Sixth Consultative Meeting on the participation of non-governmental international organizations as shown in Annex to this resolution, and any other rules and procedures agreed to in the future by the Consultative Meeting.

The IMO Rules Governing Relationship with Non-Governmental International Organizations, the IMO Guidelines on the Grant of Consultative Status, and IMO practice regarding these principles, shall provide guidance with respect to the participation, the granting of observer status, the withdrawal of this status and the rights and obligations of observers.

Further, non-governmental international organizations shall:

1 keep delegation size to the minimum necessary to make a constructive contribution to the meeting;

2 refrain from using the forum of the Consultative Meeting, the Scientific Group on Dumping, or any other meeting of the organs of the Consultative Meeting, for the purpose of demonstrations or the distribution of material which is detrimental to the meetings, as determined by the Chairmen of such meetings;

3 refrain from communicating with the media on any agenda item under discussion at a meeting in a manner prejudicial to the discussions; and

4 respect any specific requirements agreed to by the Contracting Parties relating to the participation of non-governmental international organizations at a meeting of Contracting Parties or any other organ established under the London Dumping Convention.

The Consultative Meeting, or any other meeting of organs established within the framework of the London Dumping Convention may, at any time, decide to take appropriate action in strict accordance with the existing Rules of Procedure of the Convention if in the opinion of a meeting the conduct of any non-governmental international organization is contrary to the rules and guidelines relating to its participation.

ANNEX

PROCEDURES CONCERNING THE PARTICIPATION OF NON-GOVERNMENTAL INTERNATIONAL ORGANIZATIONS AT THE CONSULTATIVE MEETING AND THE SCIENTIFIC GROUP ON DUMPING
(as adopted by the Sixth Consultative Meeting (LDC VI/12, paragraph 1.8))

1 Non-governmental international organizations wishing to participate in any meeting of the Consultative Meeting and the Scientific Group on Dumping shall submit to the Secretariat in writing a request for participation, at least three months in advance of the opening day of the meeting.

2 The acceptance or rejection of any such request made by organizations shall be decided by the "Bureau", consisting of the Chairman, the Vice-Chairmen and the Secretary.

3 The "Bureau" shall decide whether written material submitted by the organizations accepted under paragraph 2 above should be circulated to the Meeting.

4 Oral statements by observers from these organizations shall be permitted only after prior approval by the Chairman.

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ANNEX 3

RESOLUTION LDC.31(11)

AMENDMENTS TO THE GUIDELINES FOR ALLOCATION OF SUBSTANCES TO THE ANNEXES TO THE LONDON DUMPING CONVENTION

THE ELEVENTH CONSULTATIVE MEETING,

RECALLING Article XIV(4)(b) of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter which emphasizes the importance of scientific and technical advice for Consultative Meetings when considering the review of the Annexes to the Convention,

RECALLING FURTHER that Criteria for the Allocation of Substances to the Annexes of the Convention had been adopted together with guidelines thereto by the Ninth Consultative Meeting of Contracting Parties (resolution LDC.19(9)) and that these called for a continuing review for the purpose of ensuring their revision in the light of new scientific and technical developments,

RECOGNIZING the role of the Scientific Group on Dumping as the scientific body responsible for keeping under review the provisions of the Annexes to the Convention,

NOTING the proposals made by the Scientific Group on Dumping regarding clarification of the terms "bioavailability" and "significant exposures" used in the Guidelines for the Allocation of Substances to the Annexes to the London Dumping Convention:

1 AGREES to the proposals of the Scientific Group on Dumping that the text of the Guidelines relating to "bioavailability" and to "significant exposures" be amended.

2 AGREES FURTHER that the attention of all Contracting Parties should be drawn to the amended guidelines as shown in the Annex to this resolution,

3 INVITES its Scientific Group on Dumping to continue the review of the Guidelines for the purpose of ensuring their revision as and when appropriate.

ANNEX

GUIDELINES FOR ALLOCATION OF SUBSTANCES TO THE ANNEXES TO THE LONDON DUMPING CONVENTION

These guidelines are intended to allow the Scientific Group on Dumping to take into account the best available scientific and technical information, recognizing that an element of further interpretation and judgement will enter the final deliberations and decisions of the Consultative Meeting. These guidelines are not intended for use as rigid rules but should nevertheless be used as the basis for the considerations of the Scientific Group and be experimented with and adapted as necessary.

1 Criteria of relevance to risk evaluation

1.1 In the evaluation of the risks arising from the disposal of any substance, the criteria listed in paragraph 2.2 below are relevant in considering the allocation of substances to the Annexes. It should also be noted that matters related to radioactivity do not fall within the terms of reference of the Scientific Group on Dumping and were referred by agreement to other fora, bodies or organizations (e.g. the IAEA). They are not considered further in these Guidelines.

2 Classification of substances

2.1 The Annexes classify defined substances or groups of substances rather than wastes. In evaluating the risks from sea dumping of substances for the purpose of classification to or between the Annexes the following steps are required:

.1 evaluation of hazard potential;
.2 evaluation of environmental exposure; and
.3 conclusions on potential scale of effects and decision on classification.

2.2 In evaluating hazard potential the following factors must be taken into account:

.1 Persistence/degradability:

persistence is a property of a substance which reflects the degree to which it will remain in a particular state or form. In this regard elements are of course persistent but will occur in the environment in many different forms and in compounds of differing persistence and biological properties. For elements, therefore, information is needed only on the formation and transformation of bio-available and toxic forms. The term "degradable" applies only to organic compounds and refers to the breakdown of a substance by physical, chemical or biological means. While it is possible in a laboratory to assess the intrinsic degradability of a substance by means of standardized tests, it is necessary for the purposes of the Convention to carry out additional tests which more adequately reflect the physical and chemical conditions likely to pertain in the sea. In particular, the concentration of test substances, and conditions related to organic materials and bacterial inoculum require special attention. Tests should be carried out with respect to all relevant environmental compartments;

.2 Bioaccumulation potential:

Bioaccumulation potential is generally determined by a comparison between uptake and elimination of a substance by an organism under controlled test conditions or through field observations. Bioaccumulation potential can provide a useful estimate of whether or not body burdens might reach levels that may present a hazard, either to the organism itself or to its predators. Bioaccumulation per se is however not necessarily harmful to the organism and is, for example, necessary in the uptake of essential elements by organisms;

.3 Toxicity to marine life:

toxicity testing is the measurement of deleterious biological effects of a substance under acute or under chronic exposure conditions (the latter resulting from either a continuous input of a non-persistent substance or a single input of a persistent substance). As a minimum, to assess the potential hazard of a substance to marine life, data on lethal toxicity under chronic (or at least long term) exposure conditions are needed. Preferably data on sub-lethal effects (including effects on reproduction) should also be considered, especially if chronic exposure may occur. A second minimum requirement is that these data should refer to representative organisms from at least three trophic levels (e.g. algae, crustacea and fish). Harmful effects to marine life may result from chemical and physical factors other than toxicity, and should also be considered, e.g. effects on photosynthesis, exchange of nutrients, gas, etc.;

.4 Toxicity to man, domestic animals, marine mammals and birds preying on marine organisms:

where persistent and bioaccumulative substances are concerned, information on toxicity to man, domestic animals or marine mammals is of relevance where a significant pathway through the marine environment exists. "Significance" in this respect may be related to a contribution to the acceptable daily intake (ADI) as recommended by WHO/FAO and other international organizations and agencies;

.5 Carcinogenicity and mutagenicity:

the state-of-the-art does not yet permit testing of carcinogenicity or mutagenicity to marine organisms; there is no hard evidence that these factors play a significant role in the marine environment.

These factors are therefore for the moment considered to be relevant primarily in terms of possible marine pathways for the transfer to man of substances demonstrating mammalian carcinogenicity or mutagenicity;

.6 Ability to interfere with other legitimate uses of the sea:

substances may exert such effects not only through physical interference with legitimate uses of the sea but also may have aesthetic effects. This interference includes the tainting of fish and shellfish.

2.3 The factors described under .2 to .4 above (bioaccumulation potential and toxicity to marine life, marine mammals, domestic animals and man) apply to the original compound as well as to the persistent metabolites or other products of organic substances and to the different forms in which elements are present. Where tests are used to evaluate bioaccumulation, bioavailability and toxicity to marine life (points .2 and .3 above), these tests must have been undertaken using realistic concentrations, and test conditions must have adequately reflected the physical and chemical condition pertaining in the sea, especially in so far as these affect bioavailability. The chemical state and physical form of substances have an important effect on their bioavailability, toxicity, persistence and bioaccumulation potential. For the purposes of allocating substances to the Annexes, bioaccumulation potential of a substance should be evaluated without regard to any of the potential mitigative properties of different waste matrices or of the ambient environmental conditions (in which they might occur). However, the characteristics of the waste matrix and the environment will greatly affect the bioavailability of a substance. As such, bioavailability is an essential factor to consider in assessing the impact of wastes (and the substances they contain) under Annex III.

2.4 Whether or not a substance is of non-natural origin is not in itself a criterion for designation to the Annexes. However, in combination with a very low degree of (bio) degradability, extra caution may be required. This extra

caution is warranted in light of the fact that substances which do not naturally occur by definition cannot be dispersed or diluted to natural background levels in the environment. Such alien substances might impose unexpected stress on marine biota and should therefore be subjected to adequate testing.

2.5 By "evaluation of environmental exposure" as referred to in paragraph 2.1.2 above, is meant the measurement or estimation of actual or potential distribution and concentration (including trends in these factors) of a substance in all relevant ecological and geographical compartments and the estimation of actual or potential contribution of dumping to local, regional or global flux. Significant environmental exposure means that organisms are exposed to substances at such concentrations and over such time that, if the substance possesses any of the properties listed in paragraphs 2.2.2 - 2.2.6, deleterious effects are likely to occur. With regard to the relative significance of concentration, quantity or flux (that is the rate of throughput of a substance, defined as mass per unit area per unit time), for the purposes of these Guidelines, the contribution by dumping to local, regional or global flux is a relevant criterion. Measurement of concentration is required for estimating exposure, which, together with a knowledge of the relationship between effects and concentration, enable a hazard assessment to be made.

2.6 On the basis of these considerations, the potential scale of effects of dumping of a substance can be determined and decisions can be taken as to whether such substances should be included in the Annexes and to which Annex they should be designated. The criteria for making these distinctions are addressed in the following paragraphs. In taking these decisions, several elements should be borne in mind in determining the appropriate safety margin to be applied. Firstly, there is a time lag between the introduction of controls and the effects of these controls becoming evident in the environment. Secondly, there are limitations to current ability to fully predict the consequences of any disposal to the sea. Thirdly, as noted in paragraph 2.4 above, the synthetic origin of a substance may indicate the need for a more cautious approach.

3 Allocation to Annexes I and II

3.1 Substances should be allocated to the Annexes if:

.1 they are, or are proposed to be, dumped; and if

.2 significant environmental exposure may result; and if

.3 they possess any combination of the properties listed in paragraph 2.2 above in significant degree

3.2 Annex I substances will be those for which dumping will or may result in, or contribute significantly to environmental exposure on a wide scale, extending far beyond the original location and time of disposal. They will also result in significant adverse environmental effects. Such substances will have in common a high degree of persistence coupled with:

.1 the ability to accumulate to levels significant in terms of toxicity to marine organisms and their predators, to domestic animals or to man; or

.2 the ability to accumulate through marine pathways to levels significant in terms of carcinogenicity or mutagenicity to domestic animals or to man; or

.3 the ability to cause a high degree of interference with fisheries, amenities or other legitimate uses of the sea.

3.3 Annex II substances will be all those considered suitable for inclusion in the Annexes except for those allocated to Annex I.

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ANNEX 4

RESOLUTION LDC.32(11)

AMENDMENTS TO THE GUIDANCE FOR THE APPLICATION OF ANNEX III
(resolution LDC.17(8))

THE ELEVENTH CONSULTATIVE MEETING,

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

RECALLING FURTHER that amendments to Annex III had been adopted by resolution LDC.26(10) concerning problems which had been encountered with ill-defined wastes that had been proposed for disposal at sea, and the impact of such wastes to marine life and human health,

EMPHASIZING the need that, in accordance with Annex III to the Convention, Contracting Parties, before considering the dumping or incineration of wastes at sea, should ensure that every effort has been made to determine the practical availability of alternative land-based methods of treatment, disposal or elimination of the wastes concerned,

NOTING the discussion which took place within the Scientific Group on Dumping on the need for Contracting Parties, when establishing criteria governing the issue of permits for the dumping of matter at sea, to be guided in their application of the provisions of Annex III to the Convention,

HAVING CONSIDERED the Guidelines for the Implementation and Uniform Interpretation of Annex III to the London Dumping Convention (resolution LDC.17(8)) and the proposed amendments to these guidelines prepared by the Scientific Group on Dumping,

ANNEX

GUIDELINES FOR THE IMPLEMENTATION AND UNIFORM INTERPRETATION OF ANNEX III* TO THE LONDON DUMPING CONVENTION

Article IV(2):	Any permit shall be issued only after careful consideration of all the factors set forth in Annex III, including prior studies of the characteristics of the dumping site, as set forth in Sections B and C of that Annex.
ANNEX III:	Provisions to be considered in establishing criteria governing the issue of permits for the dumping of matter at sea, taking into account Article IV(2), include:

Interpretation:

Each authority or authorities designated in accordance with Article VI for the issue of general and special permits for the disposal of wastes and other matter at sea shall, when considering a permit application, carefully study all the factors set out in Annex III. This includes the establishment of procedures and criteria for:

1 deciding whether an application for sea disposal should be pursued in the light of the availability of land-based disposal or treatment methods;

2 selecting a sea disposal site, including the choice and collection of relevant scientific data to assess the potential hazards to human health, harm to living resources and marine life, damage to amenities or interference with other legitimate uses of the sea;

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* For the disposal at sea of radioactive wastes additional requirements recommended by the IAEA have to be taken into account (INFCIRC/205/Add.1/Rev.1). For the control of incineration of wastes at sea specific site selection criteria have been established (Regulation 8 of Addendum to Annex I).

3 choosing appropriate disposal methods and conditions;

4 developing an appropriate monitoring programme.

The above mentioned criteria should enable permit applications to be effectively assessed and likely environmental hazards to be evaluated.

A - CHARACTERISTICS AND COMPOSITION OF THE MATTER

1	Total amount and average composition of matter [to be] dumped (e.g. per year).
2	Form, e.g. solid, sludge, liquid, or gaseous.
3	Properties: physical (e.g. solubility and density), chemical and biochemical (e.g. oxygen demand, nutrients) and biological (e.g. presence of viruses, bacteria, yeasts, parasites).

Interpretation:

In order to assess environmental transport and fate, including potential effects on water quality and biota, the total amount of wastes proposed to be dumped within a time period, and the physical, chemical and biological composition of the waste should be known. The first step for the characterization of a waste or other matter proposed for dumping at a site should be the collection of existing data on the waste composition or a waste analysis.

This should not mean that every waste should be subjected to exhaustive chemical analysis to establish the concentrations of a standard wide-ranging list of chemical elements or compounds. Knowledge of the raw materials and production processes used may often provide a key to the probable composition of the waste. A selective analysis may then be sufficient for a preliminary assessment. As a minimum, it should be established whether any Annex I or Annex II materials are present.

The analysis should include appropriate measurements of the composition of major components. In cases where anthropogenic chemicals of high toxicity are known or suspected to be involved, those minor components which are reasonably identifiable should be measured.

In addition data should, as appropriate, be obtained on physical, chemical and biological properties of the waste or other matter, such as:

- Solubility
- Percent solids
- Density (specific gravity) of bulk matter, its liquid and particle phases
- Grain size fractions of total solid phase (e.g. clay-silt/sand-gravel fractions of dredged material)
- pH
- Biochemical oxygen demand (BOD)
- Chemical oxygen demand (COD)
- Nutrients
- Microbiological components.

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4 Toxicity,

5 Persistence: physical, chemical and biological,

6 Accumulation and biotransformation in biological materials or sediments.

Interpretation:

If the chemical analysis of the wastes shows the presence of substances whose biological effects are not well known, or if there is any doubt as to the exact composition or properties of the waste, if may be necessary to carry out suitable test procedures for toxicity, persistence, bioavailability and bioaccumulation, which may include the following:

1 acute toxicity tests on phytoplankton, crustaceans or molluscs, fish, or other such organisms as may be appropriate;

2 chronic toxicity tests capable of evaluating long-term sublethal effects, such as bioassays covering an entire life cycle;

3 tests to determine the potential for bioavailability and bioaccumulation of the substances contained in the waste and, if appropriate, the potential for eventual elimination. The test organisms should be those most likely to bioaccumulate the substances concerned; and

4 test for determining the persistence of substances contained in the waste. The potential for degradability of these substances should be determined using bacteria and water typical of the proposed dumping site. The tests should attempt to reflect the conditions at the proposed dumping site.

If appropriate, the test procedures described above should be carried out separately with the solid, suspended and/or liquid phases of wastes proposed for sea disposal.

A number of substances, when entering the marine environment, are known to be altered by biological processes to more toxic substances. This should be taken into particular account when the various tests mentioned above are performed.

7 Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other dissolved organic and inorganic materials

Interpretation:

Substances introduced into the sea may be rapidly rendered harmless by physical, chemical and biochemical processes but others may be changed to products with more hazardous properties than those of the original substances. In these latter cases, it may be appropriate to carry out the tests outlined in paragraph A6 above with the anticipated products.

8 Probability of production of taints or other changes reducing marketability of resources (fish, shellfish, etc.).

Interpretation:

In evaluating the possible effects of the waste concerned on marine biota, particular attention should be paid to those substances which are known to accumulate in marine organisms with the result that seafood is tainted and rendered unpalatable. In many cases there might be a suspicion about the tainting property of a substance without the availability of firm data. In these cases a taste panel will have to determine threshold limits, if any, of the tainting properties of the substance concerned.

"Other changes reducing the marketability of resources" referred to in paragraph 8 of Section A include discolouration of fish flesh, and fish diseases such as fin rot and tumours.

9 In issuing a permit for dumping, Contracting Parties should consider whether an adequate scientific basis exists concerning characteristics and composition of the matter to be dumped to assess the impact of the matter to marine life and to human health.*

Interpretation:

In considering disposal at sea of ill-defined wastes or waste mixtures from multiple sources, every effort should be made to obtain data on their chemical, physical and biological characteristics to assess their environmental transport, fate and effects. If a waste is so poorly characterized that proper assessment (using the foregoing guidelines) cannot be made of its potential impacts in the environment, then that waste should not be dumped at sea.

B - CHARACTERISTICS OF DUMPING SITE AND METHOD OF DEPOSIT

Matters relating to dumpsite selection criteria are addressed in greater detail in a study prepared by GESAMP* (Reports and Studies No.16: Scientific Criteria for the Selection of Waste Disposal Sites at Sea, IMO 1982) which should be considered in conjunction with these guidelines.

1 Location (e.g. co-ordinates of the dumping area, depth and distance from the coast), location in relation to other areas (e.g. amenity areas, spawning, nursery and fishing areas and exploitable resources).

Interpretation:

Basic site characterization information to be considered by national authorities at a very early stage of assessment of a new site should include

* The inclusion of paragraph 9 in section A of Annex III has been approved in principle and the Twelfth Consultative Meeting has been designated for its formal adoption.

** IMO/FAO/UNESCO/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution.

the co-ordinates of the dumping area (latitude, longitude), as well as its location with regard to:

- distance to nearest coastline
- recreational areas
- spawning and nursery areas
- known migration routes of fish or marine mammals
- sport and commercial fishing areas
- areas of natural beauty or significant cultural or historical importance
- areas of special scientific or biological importance (marine sanctuaries)
- shipping lanes
- military exclusion zones
- engineering uses of seafloor (e.g. potential or ongoing seabed mining, undersea cables, desalination or energy conversion sites).

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2 Rate of disposal per specific period (e.g. quantity per day, per week, per month).

Interpretation:

Although the amounts of matter to be dumped (e.g. per year) are considered under paragraph A1 above, many operations, e.g. those related to dredging, are of shorter periods. In order to assess the capacity of the area for receiving a given type of material the anticipated loading rates (e.g. per day) or in the case of existing sites, the actual loading rates (frequency of operations and quantities of wastes or other matter disposed of at each operation per time period) should be taken into consideration.

3	Methods of packaging and containment, if any.
4	Initial dilution achieved by proposed method of release.

Interpretation:

The data to be considered under this item should include information on:

- type, size and form of packaging and containment units
- presence of any Annex I or Annex II substances as packaging material or in any matrix that might be used
- marking and labelling of packages
- disposal method (e.g. jettisoning over ship's side; discharge of liquids and sludges through pipes, pumping rates, number and location of discharge pipe outlets (under or above waterline, water depth), etc.). In this connexion the length and speed of the vessel when discharging wastes or other matter should be used to establish the initial dilution.

5	Dispersal characteristics (e.g. effects of currents, tides and wind or horizontal transport and vertical mixing).
6	Water characteristics (e.g. temperature, pH, salinity, stratification, oxygen indices of pollution - dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD) - nitrogen present in organic and mineral form including ammonia, suspended matter, other nutrients and productivity).

Interpretation:

For the evaluation of dispersal characteristics data should be obtained on the following:

- water depths (maximum, minimum, mean)
- water stratification in various seasons and weather conditions (depth and seasonal variation of pycnocline)

- tidal period, orientation of tidal ellipse, velocities of minor and major axis
- mean surface drift (net): direction, velocity
- mean bottom drift (net): direction, velocity
- storm (wave) induced bottom currents (velocities)
- wind and wave characteristics, average number of storm days per year
- concentration and composition of suspended solids.

Where the chemical composition of the waste warrants, it may be appropriate to evaluate pH, suspended solids, persistent organic chemicals, metals, nutrients and microbiological components. BOD and COD or organic carbon determinations in the suspended or dissolved phase, together with oxygen measurements, may also be appropriate where organic wastes or nutrients are concerned.

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7 Bottom characteristics (e.g. topography, geochemical and geological characteristics and biological productivity).

Interpretation:

Maps and bathymetric charts should be consulted and specific topographic features which may affect the dispersal of wastes (e.g. marine canyons) should be identified.

The geochemical observations of sediments in and around the disposal site should be related to the type of waste(s) involved. The range of chemical constituents should be the same as that provided for the characterization of the waste or other matter, with the minimum range of data set out in paragraph A1 above.

In areas where wastes may reach the bottom, sediment structure (i.e. the distribution of gravel, sand, silt and clay) as well as benthic and epibenthic community characteristics should be considered for the site area.

Mobility of sediments due to waves, tides or other currents should be considered in any waste disposal site assessments. The possibility of seismic activities in the area under consideration should be investigated, in particular when hazardous wastes in packaged form are concerned. The distribution of sediment types in an area provides basic information as to whether dumped solids with certain characteristics will accumulate at a site or be dispersed.

Sorption/desorption processes under the range of dump site redox and pH conditions, with particular reference to exchanges between dissolved and fine particulate phases, are relevant to the evaluation of the accumulative properties of the area for the components of the waste proposed for dumping and for their potential release to overlying waters.

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8 Existence and effects of other dumpings which have been made in the dumping area (e.g. heavy metal background reading and organic carbon content).

Interpretation:

The basic assessment to be carried out of a site, either a new or an existing one, shall include the consideration of possible effects that might arise by the increase of certain waste constituents or by interaction (e.g. synergystic effects) with other substances introduced in the area, either by other dumpings or by river input and discharges from coastal areas, by exploitation areas, and maritime transport as well as through the atmosphere. The existing stress on biological communities as a result of such activities should be evaluated before any new or additional disposal operations are established. The possible future uses of the sea area should be kept under consideration.

Information from baseline and monitoring studies at already established dumping sites will be important in this evaluation of any new dumping activity at the same site or nearby.

9 In issuing a permit for dumping, Contracting Parties should consider whether an adequate scientific basis exists for assessing the consequences of such dumping, as outlined in this Annex, taking into account seasonal variations.

Interpretation:

When a given location is first under consideration as a candidate disposal site, the existing data basis should be evaluated with a view to establishing whether the main characteristics are known in sufficient detail or accurately enough for reliable modelling of waste effects. Many parameters are so variable in space and time that a comprehensive series of observation have to be designed to quantify the key properties of an area over the various seasons.

If at any time, monitoring studies demonstrate that existing disposal sites do not satisfy these criteria, alternative disposal sites or methods should be considered.

C - GENERAL CONSIDERATIONS AND CONDITIONS

1 Possible effects on amenities (e.g. presence of floating or stranded material, turbidity, objectionable odour, discolouration and foaming).

2 Possible effects on marine life, fish and shell fish culture, fish stocks and fisheries, seaweed harvesting and culture.

Interpretation:

Particular attention should be given to those waste constituents which float on the surface or which, in reaction with sea water may lead to floating substances and which, because they are confined to a two-dimensional rather than a three dimensional medium, disperse very slowly. The possibility of reaccumulation of such substances caused by the presence of surface

convergences which may lead to interferences with amenities as well as with fisheries and shipping should be investigated.

Information on the nature and extent of commercial and recreational fishery resources and activities should be gathered.

Body burdens of persistent toxic substances (and, in the case of shellfish, pathogens) in selected marine life and, in particular, commercial food species from the dumping area should be established.

Certain grounds although not in use for fishing may be important to fish stocks as spawning, nursery or feeding areas, and the effects of sea disposal on these grounds should be considered.

The effects which waste disposal in certain areas could have on the habitats of rare, vulnerable or endangered species should be recognized.

Besides toxicological and bioaccumulation effects of waste constituents other potential impacts on marine life, such as nutrient enrichment, oxygen depletion, turbidity, modification of the sediment composition and blanketing of the sea floor, should be addressed.

It should also be taken into account that disposal at sea of certain substances may disrupt the physiological processes used by fish for detection and may mask natural characteristics of sea water or tributary streams, thus confusing migratory species which consequently lose their direction, go unspawned or fail to find food.

3	Possible effects on other uses of the sea (e.g. impairment of water quality for industrial use, underwater corrosion of structures, interference with ship operations from floating materials, interference with fishing or navigation through deposit of waste or solid objects on the sea floor and protection of areas of special importance for scientific or conservation purposes).

Interpretation:

Consideration of possible effects on the uses of the sea as outlined in paragraph C3 should include interferences with fishing, such as the damaging or fouling of fishing gear. Any possibility of excluding the future uses of the sea dumping area for other resources, such as water use for industrial purposes, navigation, erection of structures, mining, etc., should be taken fully into account.

Areas of special importance include those of interest for scientific research or conservation areas and distinctive habitats of limited distribution (such as seabird rookeries, kelp beds or coral reefs); information should also be provided on all distinctive habitats in the vicinity of the proposed site which might be affected by the material to be dumped. Attention should also be given to geological and physiographical formations of outstanding universal value from the point of view of science, conservation or natural beauty.

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4 The practical availability of alternative land-based methods of treatment, disposal or elimination, or of treatment to render the matter less harmful for dumping at sea.

Interpretation:

1 Dumping of wastes and other matter at sea

Before considering the dumping of matter at sea every effort should be made to determine the practical availability of alternative land-based methods of treatment, disposal or elimination, or of treatment to render the matter less harmful for dumping at sea.

The practical availability of other means of disposal should be considered in the light of a comparative assessment of:

- Human health risks
- Environmental costs
- Hazards (including accidents) associated with treatment, packaging, transport and disposal
- Economics (including energy costs)
- Exclusion of future uses of disposal areas,

for both sea disposal and the alternatives.

If the foregoing analysis shows the ocean alternative to be less preferable, a licence for sea disposal should not be given.

2 Incineration of wastes and other matter at sea

Recognizing the provisions of Regulation 2(2) of the Regulations for the Control of Incineration of Wastes and Other Matter at Sea, the appropriate

authorities should ensure that, before considering the incineration of wastes at sea, every effort has been made to determine the practical availability of alternative land-based methods of treatment, disposal or elimination of the wastes concerned.

Accordingly, authorities should take appropriate steps to ensure that the generators of those wastes that are proposed for incineration at sea have applied the generally accepted hierarchy of waste management in their assessment of alternative technologies.

The hierarchy is described as follows:

> Existing and developing methods for managing hazardous wastes are commonly organized into a hierarchy that accords preferred status to methods that reduce risk by reducing the quantity and degree of hazard of a waste.
>
> The highest tier in the hierarchy includes those methods - collectively referred to as reduction - that actually avoid the generation of waste. Techniques that reuse or recover wastes after they are generated occupy the next tier. Techniques that treat or destroy wastes are preferred over those that merely contain or actually disperse wastes into the environment.

Specific technological approaches which have been shown to achieve significant reductions in the amounts of hazardous waste include process and equipment changes, chemical substitution, product reformulation, as well as a variety of maintenance, operational and housekeeping changes as well as waste reuse.

It should, however, be recognized that some countries producing wastes that need to be destroyed by incineration, either do not possess suitable land-based incinerators or have limited capacity at such facilities. Furthermore, export of wastes to land-based incinerators in other countries

may be restricted by legal, economic or other factors including available capacities and national priorities. These circumstances may, in certain cases, constitute grounds for concluding that practical alternatives to incineration at sea are not available. Nevertheless, permits for incineration at sea should not be issued unless conformity with the Regulations for the Control of Incineration of Wastes and Other Matter at Sea, and the Technical Guidelines thereto, can be assured.

In applying the hierarchy of waste management, alternatives to incineration of wastes at sea should also be considered in the light of comparative assessment of:

- Human health risks;
- Environmental costs;
- Hazards (including accidents) associated with treatment, packaging, transport and disposal;
- Economics (including energy costs);
- Exclusion of future uses of incineration sites

for both incineration at sea and the alternatives.

If the foregoing analysis shows the ocean alternative to be less preferable, a licence for incineration at sea should not be given.

Where it is determined that alternatives to incineration at sea are, in practice, not available, emphasis should be placed on the introduction of improved waste management procedures with particular attention being given to the application of the hierarchy of waste management described above. If it is predicted that, despite the application of waste management procedures, arisings of wastes requiring incineration are likely to be maintained, or to increase significantly, consideration should be given to establishing suitable land-based alternatives, or increasing their capacity, to meet national requirements.

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ANNEX 5

RESOLUTION LDC.33(11)

AMENDMENTS TO THE INTERIM TECHNICAL SUIDELINES ON THE CONTROL OF INCINERATION OF WASTES AND OTHER MATTER AT SEA

THE ELEVENTH CONSULTATIVE MEETING,

RECOGNIZING that Contracting Parties to the Convention when issuing permits for incineration at sea should take full account of the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea, which had been adopted by the Fourth Consultative Meeting and were subsequently amended by the Fifth, Seventh and Eighth Consultative Meeting,

NOTING that the Scientific Group on Dumping after consideration of the report of the Joint LDC/OSCOM Group of Experts on Incineration at Sea (LDC/OSCOM/IAS 2/9, LDC/OSCOM/IAS 2/9/Corr.1) agreed that further amendments to the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea were warranted to better reflect the current incineration operational techniques and practices,

1 ADOPTS amendments to the Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea

2 RESOLVES that Contracting Parties to the Convention should:

- take full account of the new Interim Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea as shown in annex;

- give preference to "no waste" and "low waste" technologies when considering individual proposals on incineration at sea.

ANNEX

INTERIM TECHNICAL GUIDELINES ON THE CONTROL OF INCINERATION OF WASTES AND OTHER MATTER AT SEA

1 INTRODUCTION

1.1 In 1978 the Third Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter adopted Resolution LDC Resolution 5(III) by which it approved the following amendments to the Annexes to the Convention concerning the prevention and control of pollution by incineration of wastes and other matter at sea:

.1 the addition of a paragraph 10 to Annex I;

.2 the addition of a paragraph E to Annex II; and

.3 the addition of an Addendum to Annex I, containing Regulations for the Control of Incineration of Wastes and Other Matter at Sea.

1.2 Under these amendments, the Contracting Parties shall, in the issue of permits for incineration, apply the Regulation for the Control of Incineration of Wastes and Other Matter at Sea and take full account of the Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea adopted by the Contracting Parties in consultation. The requirements for the issue of permits for different types of wastes are summarized in the following table:

	Substance	Permit	Regulations	Technical Guidelines
1	Organohalogen compounds; Pesticides and by-products	Special	All provisions of the Regulations in Parts I and II to be applied	All provisions of the Technical Guidelines to be taken into full account
2	Crude oil, fuel oil, etc. taken on board for purpose of disposal; Annex II substances (without pesticides)	Special	Control to the satisfaction of Contracting Parties, taking into account: all applicable provisions of Regulations in Parts I and II	all applicable provisions of the Technical Guidelines
3	Substances not mentioned under (1) and (2) above	General		as under (2) above

1.3 The present Guidelines have been developed on the basis of existing scientific knowledge of the incineration process and on a knowledge of current technology. Although the state of knowledge on the incineration of liquid organochlorine wastes in existing vessels has enabled specific guidelines to be drawn up covering the incineration of these wastes, there remain types of wastes where knowledge is insufficient at present. Scientific work and technical development is, however, proceeding and consequently these Guidelines should be kept under review as the results of further research and investigation become available.

1.4 These Technical Guidlines apply to wastes or other matter loaded or kept on board marine incineration facilities which are defined in Regulation 1(1) and include vessels, platforms or other man-made structures which might at some future date carry out factory operations and generate wastes which could be incinerated at sea. Incineration at sea is defined in Regulation 1(2) and

exclude activities incidental to the normal operation of ships (e.g. combustion of ship-generated garbage) or platforms (e.g. flaring of gas from oil production or exploration).

1.5 The incineration of waste at sea must be controlled to safeguard a number of uses of the marine environment as laid down in Annex III to the Convention and the Guidelines for the Implementation and Uniform Interpretation of Annex III, in particular with regard to the specific advice provided on the practical availability of alternative land-based methods of treatment, disposal or elimination, or of treatment to render the matter less harmful as set out under section C4 of the Guidelines. Additionally, the Resolution of the First Consultative Meeting of Contracting Parties to the London Dumping Convention (1976) recognized that the risks of atmospheric pollution should be taken into account.

1.6 Where the word 'Convention as amended in 1978' is used, this is to be understood as reference to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, with amendments to the Annexes to the Convention adopted in 1978 as listed under 1.1 above. Where the word 'Regulation' is used, this is to be understood as reference to the corresponding regulation of the Addendum to Annex I to the Convention as mentioned in 1.1.3 above.

2 APPROVAL AND SURVEYS OF THE INCINERATION SYSTEM

2.1 Responsibility of Contracting Parties

2.1.1 The initial survey of the marine incineration facility referred to in Regulation 3 should be the responsibility of a Contracting Party. Subsequent surveys of the marine incineration facilities should be the responsibility of the Contracting Party which conducted the initial survey or of a Contracting Party responsible for issuing a permit for current operations in consultation with that Contracting Party.

3 INCINERATION OPERATIONS

3.1 Waste type and feed rates of waste to the incinerator

3.1.1 Continuous flow-measuring devices for recording liquid waste flow rate should be installed on marine incineration facilities. Additional methods of control should be based on a continuous display of the waste and fuel pump status supplemented by manual checks of the type and amount of waste burned every hour, weather and sea state permitting, to be recorded in the log.

3.1.2 Where solid wastes are burned, the waste type and rate of input should be recorded in the log.

3.1.3 The feeding of wastes in containers to the incinerator will necessitate special design and operational requirements in order to comply with Regulation 5. These should include but not be limited to:

.1 the waste should be fed to the incinerator at such a rate that the oxygen demand is well within the capability of the combustion air fan; and

.2 the waste should be fed to the incinerator via an air lock chamber.

3.2 Black smoke and flames above the stack

3.2.1 With regard to Regulation 5(3) "that there shall be no black smoke nor flame extensions above the plane of the stack" experience has shown that under certain operating conditions the appearance of black smoke and flames above the plane of the stack is unavoidable. Such conditions include the following:

.1 the preheating of the incinerator with oil before the incinerator has reached the required operating temperature;

.2 the first introduction of wastes into the preheated incinerator; and

.3 the change of different waste types introduced into the incinerator.

3.2.2 Contracting Parties should ensure that operating standards are used that minimize such occurrences.

3.3 Air feed to the incinerator

3.3.1 The amount of air entering the incinerator should be sufficient to ensure that a minimum of 3 per cent oxygen is present in the combustion gases near the incinerator stack exit. This requirement should be monitored by an automatic oxygen analyser to routinely record oxygen concentrations.

3.3.2 Although existing incinerator vessels employ a fixed air input rate, marine incineration facilities may in the future use a variable air feed in which case this rate should be recorded.

3.4 Temperature controls

3.4.1 Temperature controls and records should be based on the measurement of wall temperature. Unless otherwise determined by the Contracting Party there should be three or more temperature measurement devices for each incinerator.

3.4.2 In order to comply with Regulation 5 the Contracting Party should define the operating wall temperature and the temperature below which the flow of waste to the incinerator should be automatically shut off by approved equipment.

3.4.3 The minimum wall temperature should be 1200°C unless the results of tests on the marine incineration facility demonstrate that the required combustion and destruction efficiencies specified in Regulations 3 and 5 can be achieved at a lower temperature.

3.5 Destruction efficiency

3.5.1 For the purpose of applying Regulation 3 the destruction efficiency should be determined not only for the total organic components of the wastes but additionally for particular substances such as those listed in 5.1.3.

3.6 Residence time

3.6.1 The mean residence time of the incinerator should be of the order of one second or longer at a flame temperature of 1250°C (e.g. as measured by an optical pyrometer) during normal operating conditions.

3.7 Automatic shut-off systems

3.7.1 Devices to shut off the waste feed to the incinerator in accordance with Regulation 3 should include the following:

.1 flame sensors with each burner to stop waste flow to that burner in the event of a flame-out; and

.2 automatic equipment to stop waste flow in the event of wall temperatures falling below 1100°C or the temperature determined in 3.4.3.

3.8 Positioning of measuring devices

3.8.1 In applying Regulation 3(1)(b)(i) and (ii) to approve the siting of temperature measuring devices and gas sampling probes the Contracting Party should take into account that in certain cases flames can be non-homogeneous (e.g. through vortex formation in the incinerator or during incineration of solid or containerized wastes).

4 GENERAL CONTROL OF THE MARINE INCINERATION FACILITY AND ITS OPERATION

4.1 Loading and stowage of wastes

4.1.1 Due to the risk of spillages wastes should not be transferred from barges or other vessels to marine incineration facilities outside harbour limits except where special arrangements have been made for the prevention of spillages to the satisfaction of the Contracting Party.

4.1.2 Wastes in damaged containers should not be taken on board marine incineration facilities.

4.1.3 Containers loaded on board should be adequately labelled.

4.1.4 Containerized wastes should be stowed in accordance with the regulations of the IMO International Maritime Dangerous Goods Code (IMDG Code).

4.2 Disposal of residues

4.2.1 Tank washings and pump-room bilges contaminated with wastes should be incinerated at sea in accordance with the Regulations for the Control of Incineration of Wastes and Other Matter at Sea and with these Technical Guidelines, or discharged to port facilities.

4.2.2 Residues remaining in the incinerator should not be dumped at sea except in accordance with the provisions of the Convention.

4.3 Prevention of hazards to other vessels

4.3.1 In licensing the incineration of wastes and other matter on board approved marine incineration facilities, the Contracting Party should have regard to the need to avoid hazards to other vessels by appropriate location of the incineration sites or incineration zones concerned and by ensuring that the relevant maritime authorities are notified of the date of sailing and/or intended schedule, as well as the intended movements of the marine incineration facility (whether underway, at anchor, etc.).

4.3.2 Regular radio warnings should be broadcast during the period of incineration.

4.3.3 Contracting Parties in a given geographical area should endeavour to designate common incineration sites in the area.

4.4 Construction of marine incineration facilities

4.4.1 For the carriage of liquid wastes an incineration ship shall carry a valid "Certificate of Fitness" as required under the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code, Chapter 19: Requirements for Ships Engaged in the Incineration at Sea of Liquid Chemical Waste).

4.5 Data recording

4.5.1 In addition to the records required by Regulation 6 of the Addendum to Annex I, marine incineration facilities should also record:

.1 the oxygen concentration in the combustion gases as monitored in accordance with 3.3.1 of these Guidelines;

.2 the air feed rate in accordance with 3.3.2;

.3 the tank(s) from which waste is taken; and

.4 the meteorological conditions, e.g. wind speed and direction.

4.5.2 For the purposes of Regulation 6 and Guideline 3.1.1 "continuous" measurements means that for sampling and datalogging a frequency is chosen which ensures that there is adequate control over incineration operations and that they are carried out in accordance with the requirements of the Regulations and the Interim Technical Guidelines for the Control of Incineration of Wastes and Other Matter at Sea. As a minimum, a frequency of at least 15 minutes is required. For automatic shut-off systems referred to in Guideline 3.7 above, immediate response of the system to temperature decreases below the required operating temperatures is necessary.

4.5.3 Parameters which may require recording in the future, subject to satisfactory technical development, include routine measurement of destruction efficiency and total particulate matter in the combustion gases.

4.5.4 The result of the recording devices under Regulation 6 and the data recording described in paragraphs 4.5.1 to 4.5.3 above should be provided to the Contracting Party which had issued the incineration permit. Where more than one Contracting Party had issued a permit for one incineration operation, arrangements for review of the data should be made among the Contracting Parties involved.

5 NATURE OF WASTES OR OTHER MATTER AND NOTIFICATION PROCEDURES

5.1 Characteristics of wastes

5.1.1 Information on the characteristics of wastes or other matter to be provided in connection with a permit application in accordance with Regulation 7 should include in addition to that in the Appendix hereto, if possible, information on the chemical and physical transformation of the waste after incineration, in particular, subsequent formation of new compounds, composition of ashes or unburned residues.

5.1.2 The physical nature of certain wastes may lead to reduced destruction efficiencies:

.1 emulsions or high concentrations of particulates may lead to atomization problems causing disruption of stable incinerator performance. When possible, pre-treatment of the wastes to reduce these features is advised; and

.2 water layers may also cause a disturbance of the incineration performance at the moment when the water layer "hits" the flame zone. Nonetheless, adequate destruction efficiency of such layers can be achieved by ensuring a homogeneuous waste feed to the incinerator through the use of mixing techniques in the on-board storage tanks and, where appropriate, the use of support fuels.

5.1.3 For the purpose of Regulation 4, examples of wastes or other matter over which doubts exist as to the thermal destruction and efficiency of combustion are listed as follows:

.1 Polychlorinated biphenyls (PCB's)
.2 Polychlorinated terphenyls (PCT's)
.3 Tetrachloro-dibenzo-p-dioxin (TCDD)
.4 Benzene hexachloride (BHC)
.5 Dichlorodiphenyl trichloroethane (DDT).

5.2 Compliance with paragraphs 8 and 9 of Annex I of the Convention

5.2.1 The Contracting Party must ensure through the application of procedures adopted by Contracting Parties in consultation that the incineration of a waste containing Annex I substances should not result in the introduction of Annex I substances into the marine environment unless these are rapidly rendered harmless or are present as trace contaminants. Based on current scientific knowledge on the environmental effects of incinerating liquid organochlorine compounds, this requirement is considered to be met if the Regulations and Technical Guidelines are observed.

5.2.2 Where it is proposed to incinerate wastes at sea containing other Annex I substances or organochlorine compounds referred to in 5.1.3, it will be necessary to determine that the residues entering the marine environment after incineration are rapidly rendered harmless or present as trace contaminants through procedures adopted by the Contracting Parties in consultation.

5.3 Notification of permits issued for incineration at sea

5.3.1 Each Contracting Party should immediately notify the Organization of a Special Permit issued for incineration of wastes or other matter at sea in accordance with Regulation 2(3). A record of the General Permits issued for incineration in the previous calendar year in accordance with Regulation 2(4) should be sent directly or through a Secretariat established under a regional agreement to the Organization by 31 March in each year.

5.3.2 The notifications should contain for each permit the kind of information set out in Appendix hereto.

5.3.3 The Organization should treat notifications of incineration permits in the same way as permits issued for dumping.

APPENDIX

NOTIFICATION FORM FOR INCINERATION PERMITS

The notification shall contain the following information for each permit:

1 issuing authorities;

2 date issued;

3 period for which the permit is valid;

4 country of origin of wastes and port of loading;

5 total quantity of wastes (in metric units) covered by the permit;

6 form in which the waste is presented (bulk or containers; in the latter case, also size and labelling);

7 composition of the waste, such as:

.1 principal organic components;

.2 organohalogens;

.3 main inorganic components;

.4 solids in suspension; and

.5 other relevant constituents;

8 properties of the waste, such as:

.1 physical form;

.2 specific gravity;

.3 viscosity;

.4 calorific value;

.5 radioactivity; and

.6 toxicity and persistence, if necessary;

9 industrial process giving rise to the waste;

10 name of the marine incineration facility and state of registration;

11 area of incineration (geographical location; distance from the nearest coast);

12 expected frequencies of incineration;

13 special conditions relating to the operation of the marine incineration facility which are more stringent than those specified in the Regulations or other than those in the Technical Guidelines;

14 additional information, such as relevant factors listed in Annex III to the Convention.

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ANNEX 6

RESOLUTION LDC.34(11)

GUIDELINES FOR THE SURVEILLANCE OF CLEANING OPERATIONS CARRIED OUT AT SEA ON BOARD INCINERATION VESSELS

THE ELEVENTH CONSULTATIVE MEETING,

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

RECALLING FURTHER that Regulations for the Control of Incineration of Wastes and Other Matter had been adopted at its Third Meeting as set forth in an Addendum to Annex I to the Convention and that this constitutes an integral part of that Annex,

RECOGNIZING that in issuing permits for incineration at sea Contracting Parties shall take full account of Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea,

BEING AWARE that cleaning operations of incineration systems and of tanks of incineration vessels may have to take place at sea,

RECOGNIZING that the Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea provide that:

- tanks washings and pump room bilges contaminated with wastes should be incinerated at sea in accordance with the Regulations for the Control of Incineration of Wastes and Other Matter at Sea and with the Technical Guidelines, or discharged to port facilities; and that

- residues remaining in the incinerator should not be dumped at sea except in accordance with the provisions of the Convention,

RECOGNIZING FURTHER that the Marine Environment Protection Committee of the International Maritime Organization concluded that Annex II of MARPOL 73/78 applies to tank cleaning operations conducted on board incinerator ships and that it adopted interpretations to clarify the requirements for the specialized operations of incinerator ships and to reduce duplication of requirements,

NOTING that there should be consistency on surveillance procedures developed under the London Dumping Convention and MARPOL 73/78,

NOTING FURTHER that, in accordance with Article VII, paragraph 1 of the London Dumping convention, each Contracting Party shall apply the measures required to implement that Convention to all vessels registered in its territory or flying its flag, or loading in its territory or territorial seas matter which is to be dumped,

1 ADOPTS the guidelines on the surveillance of cleaning operations carried out at sea on board incineration vessels as described in the Annex to the present resolution,

2 RESOLVES that Contracting Parties should take full account of the guidelines on the surveillance of cleaning operations carried out at sea on board incineration vessels.

ANNEX

A Contracting Party to the London Dumping Convention should, when issuing permits for incineration at sea pursuant to Article VI(2) of the London Dumping Convention ensure that the following conditions for surveillance of tank cleaning operations are met:

1 Each permit should include specific provisions:

.1 requiring tank washings and pump-room bilges contaminated with wastes to be incinerated at sea or discharged to port facilities;

.2 concerning surveillance of tank cleaning and residue disposal operations and the location at which those operations are to be conducted;

.3 requiring the master of the incinerator ship, prior to its departure from the loading port, to inform the Contracting Party issuing the permit or performing the tank cleaning surveillance

- whether the tanks will be cleaned prior to arrival at the ship's next port of call, and

- of the intended means of residue disposal.

For consecutive voyages from the same loading port a single notification would be sufficient;

.4 requiring that the incinerator ship have on board procedures for conducting tank cleaning operations and residue disposal operations. Procedures for these operations included in an approved Procedures and Arrangements Manual required by Annex II of MARPOL 73/78 are acceptable for this condition;

.5 requiring that a surveyor approved by the Contracting Party be on board the ships

- to witness the tank cleaning and residue disposal operations; and

- to assure that those operations are completed according to procedures established by the Contracting Party such as those included in an approved Procedures and Arrangements Manual required by Annex II of MARPOL 73/78;

.6 requiring that a record of pertinent information respecting each operational procedure in cleaning tanks and disposing of the residue be made in an appropriate ship's record. Information to be recorded should indicate the ship has complied with the approved procedures for tank cleaning and should include data such as the date, time, type and quantity of waste, identity of tanks cleaned, equipment and solvents used for tank cleaning, duration of cleaning, name and location of reception facility, etc. Entries in the ship's Cargo Record Book required by Annex II of MARPOL 73/78 provide a satisfactory record to meet this requirement. The surveyor should sign the record and state that the tank cleaning and residue disposal operations were correctly and completely performed in compliance with the incineration permit and the procedures acceptable to the Contracting Party.

2 The Contracting Party should ensure that the terminal or port at which the liquid chemical wastes for incineration are loaded aboard the incinerator ship can provide reception facilities or shall ensure through written confirmation that adequate reception facilities are provided at another port which are adequate to receive residues of waste for incineration as will remain for disposal ashore. Since incinerator ship cargoes are generally

compatible, reception facilities will normally be required in connection with inspection of the cargo tanks or repair of the incinerator ship.

3 An appropriately qualified surveyor should be appointed, or otherwise approved, to witness the tank cleaning and residue disposal operation, and to ensure that those operations are completed according to procedures acceptable to the Contracting Party, which may be included in an approved Procedures and Arrangements Manual required by Annex II of MARPOL 73/78. The surveyor should prepare a report of the tank cleaning and residue disposal operations for submission by the Contracting Party to the Organization for circulation to all Contracting Parties to the London Dumping Convention.

All Contracting Parties should co-operate to ensure the incineration permit conditions and the surveillance guidelines herein are met. Co-operation may include providing specific assistance, as agreed upon between the concerned Contracting Parties, which may include arrangements to provide the surveyor for surveillance of the tank cleaning operations.

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ANNEX 7

RESOLUTION LDC.35(11)

STATUS OF INCINERATION OF NOXIOUS LIQUID WASTES AT SEA

THE ELEVENTH CONSULTATIVE MEETING,

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

REAFFIRMING that incineration at sea is an interim method of waste disposal, and RECOGNIZING that Contracting Parties should give priority to no waste and low waste technology within the hierarchy of waste management,

ACKNOWLEDGING that the Scientific Group on Dumping has considered the report of the Joint LDC/OSCOM Group of Experts on Incineration at Sea (LDC/OSCOM/IAS 2/9) and advised the Eleventh Consultative Meeting that the information available provides an adequate basis to assess the environmental acceptability and safety of incineration at sea, and recognizing the need to continue to improve the controls and environmental safeguards in the use of incineration at sea,

RECOGNIZING ALSO the concerns of several Contracting Parties that incineration at sea, as a means of disposal of noxious liquid wastes which may contain highly toxic substances, is considered to represent subsequent risks of marine and atmospheric pollution,

RECOGNIZING FURTHER the potential risk of interference with other legitimate uses of the sea which could arise from incineration operations at sea,

NOTING the need to urge States, which have not previously carried out incineration operations at sea, that instead of starting such operations alternatives to incineration at sea should be considered and that particular

attention should be given to developing land-based alternatives, providing they are safer and environmentally more acceptable,

AGREES

1 to take all steps possible to minimize or substantially reduce the use of marine incineration of noxious liquid wastes by 1 January 1991;

2 that Contracting Parties shall re-evaluate incineration at sea of noxious liquid wastes as early in 1992 as possible with a view to proceeding towards the termination of this practice by 31 December 1994. The re evaluation shall take into account the scientific and technical aspects of incineration at sea, and the practical availability of safer and environmentally more acceptable land-based alternatives. The re-evaluation shall also take into account any other related information that may be brought forward, with particular attention given to the Oslo Commission experience while phasing out incineration at sea;

3 that Contracting Parties shall not export noxious liquid wastes intended for incineration at sea to any State not Party to the Convention, nor allow their disposal in other ways harmful to the environment;

4 that it is preferable that noxious liquid wastes from coastal States which are to be incinerated at sea be loaded in a harbour of the country from which they originate, and under full control of such a country, instead of being exported to another country; and

5 to employ the revised interim technical guidelines on incineration at sea (resolution LDC.33(11)), reflecting the most recent scientific advice in this field, and the new Guidelines to Annex III C4 (resolution LDC.32(11)) setting out the necessary consideration relevant to the use of incineration at sea.

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ANNEX 8

SUBSTANTIVE ITEMS TO BE INCLUDED IN THE AGENDA FOR THE TWELFTH CONSULTATIVE MEETING AND FOR THE TWELFTH MEETING OF THE SCIENTIFIC GROUP ON DUMPING

Twelfth Consultative Meeting

- Report of the Scientific Group on Dumping
- Proposals for the re-structuring of the Annexes to the Convention
- Matters related to the disposal of radioactive wastes at sea, including the consideration of the report of the third meeting of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea
- Consideration of the report of the task team on liability
- Matters related to incineration at sea
- Transboundary transport of hazardous wastes
- Information exchange and technology:
  - national and regional seminars on waste disposal at sea
  - international ocean disposal symposia;
  - public relations
- Relations with other organizations
- Long-term strategy for the Convention

Twelfth meeting of the Scientific Group on Dumping

- Report of the ad hoc Working Group on the Annexes

- Monitoring and control of dumping and incineration activities:

  - Data and reporting requirements for compliance monitoring
  - Review of reports related to monitoring
  - Review of summary reports

- Incineration at sea

- Sea disposal of off-shore installations and structures

- Processes and procedures for the management of wastes dumped at sea:

  - Comparative assessment of sea and land-based disposal options
  - Mitigation of the impact of dumping
  - Guidelines and manuals

- Field verification of laboratory tests

- Co-operation and information exchange:

  - Co-operation with other organizations
  - Symposia, seminars and workshops
  - Information exchange

- Future work programme:

  - Development of programme and priorities.
