



THIRD CONSULTATIVE MEETING OF  
CONTRACTING PARTIES TO THE  
CONVENTION ON THE PREVENTION  
OF MARINE POLLUTION BY DUMPING  
OF WASTES AND OTHER MATTER  
9-13 October 1978

IMCO

Agenda item 13

REPORT OF THE THIRD CONSULTATIVE MEETING

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1. INTRODUCTION

Opening of the Meeting

1.1 The Third Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, convened in accordance with Article XIV(3)(a) of the Convention, was held at IMCO Headquarters, London from 9 to 13 October 1978.

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

CANADA  
CHILE  
DENMARK  
FRANCE  
GERMANY, FEDERAL REPUBLIC OF  
ICELAND  
MEXICO  
NETHERLANDS

NORWAY  
PORTUGAL  
SOUTH AFRICA  
SPAIN  
SWEDEN  
USSR  
UNITED KINGDOM  
UNITED STATES

by observers from the following States, not being Contracting Parties to the Convention:

AUSTRALIA  
FINLAND  
GREECE  
IRELAND

JAPAN  
POLAND  
SINGAPORE  
SWITZERLAND

by observers from the following United Nations organizations:

UNITED NATIONS (UN)  
UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)  
INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

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

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

1.3 At the opening of the Meeting, Mr. H.R. Bardarson (Iceland) was unanimously re-elected Chairman; Dr. F.S. Terziev (USSR) and Mr. F. Gonzalez (Mexico) were unanimously elected First and Second Vice-Chairman respectively.

1.4 In an opening statement, the Secretary-General of IMCO described the principal activities in the field of marine pollution in which IMCO had been involved since the Second Consultative Meeting. In this connexion, the Secretary-General expressed sympathy for the Government and people of France with respect to the unfortunate mishap which occurred when the "Amoco Cadiz" was stranded on the coast of Brittany in March 1978 and caused a major pollution disaster. The Meeting joined in this expression of sympathy, which was appreciated by the French delegation.

#### Adoption of the Agenda

1.5 The Agenda for the Meeting, as adopted, is shown at Annex 1. This includes, under each item, a list of documents which were considered.

#### Report on Credentials

1.6 The credentials of representatives and alternates participating at the Third Consultative Meeting of Contracting Parties to the London Dumping Convention were examined by the Secretary-General to ensure conformity with the provisions of Rule 7 of the Rules of Procedure. The Secretary-General reported that all credentials were found to be in order.

### 2. STATE OF RATIFICATION OF THE CONVENTION

2.1 The Meeting noted the status of the Convention as set out in the Report of the Secretary-General (LDC III/2). The Meeting also noted additional information provided by the Secretary-General concerning acceptances which had been received by the Secretariat after completion of the document LDC III/2. The Meeting welcomed the acceptances received since the Second Consultative Meeting from four Governments (Federal Republic of Germany, the Netherlands, Portugal and South Africa), which raised the total number of Contracting Parties from 35 to 39.

2.2 The Meeting noted statements made by the observers from Finland and Japan which indicated that the procedure for acceptance was now well advanced and their Governments expected to be able to ratify the Convention in the near future.

2.3 The Meeting, realizing that control over the disposal of wastes at sea is a very important aspect of the prevention of marine pollution, requested the Secretary-General to write to governments which have not yet ratified or acceded to the Convention, inviting them to do so as soon as possible and to indicate any specific problems including difficulties



resulting from amendments to the Annexes, which they may have or assistance they may require in implementing the provisions of the Convention.

3. REPORT OF THE JOINT AD HOC GROUP ON INCINERATION AT SEA

3.1 The Meeting took note of the Report of the Joint Ad Hoc Group on Incineration at Sea (IAS/9, issued under cover LDC III/3), which had been convened jointly by the Secretariats of the London Dumping Convention and the Oslo Commission during the intersessional period (21-23 June 1978). The Meeting was further informed of the consideration given to incineration at sea by the Maritime Safety Committee at its thirty-ninth session (25-29 September 1978) (LDC III/INF.4). In particular the Meeting noted the proposed amendments to the Technical Guidelines on the Control of Incineration at Sea (IAS/9, Annex III), together with comments and related information on the following items:

- (1) the outcome of the Joint Ad Hoc Group's discussion on:
  - (a) Notification Procedures concerning permits issued for incineration at sea;
  - (b) the type and manner of consultation in emergency situations and in cases where doubts exist as to the efficiency of incineration;
  - (c) the requirements on the construction of incineration vessels as proposed by the Sub-Committee on Bulk Chemicals;
  - (d) the definition of non-organohalogen "trace contaminants" and of "significant amounts";
- (2) the outcome of the thirty-ninth session of the Maritime Safety Committee with regard to:
  - (a) Draft Guidelines for the Application of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk to Ships Engaged in Incineration at Sea;
  - (b) the request of the Oslo Working Group on Incineration at Sea to consider the question of selecting suitable common incineration sites in the North Sea and defining an appropriate distance at which they should be kept clear of shipping lanes.

3.2 The Meeting agreed that the proposed amendments to the Technical Guidelines on the Control of Incineration at Sea, as well as other technical provisions and requirements on incineration, should be considered by an Ad Hoc Working Group on Incineration to be set up during this Meeting in accordance with a proposal brought forward by the Ad Hoc Group of Legal Experts on Dumping, the Report of which would be considered under item 4 of the Agenda.

3.3 With regard to the outcome of the thirty-ninth session of the Maritime Safety Committee on matters relating to incineration at sea, the Meeting endorsed the comments made by the Joint Ad Hoc Group on the draft Interim Guidelines with regard to the application of the Bulk Chemical Code to incineration ships (LDC III/INF.4, Annex) and on the requirements for the construction and equipment of vessels engaged in incineration, and agreed that these comments should be conveyed to the Sub-Committee on Bulk Chemicals, which had been requested by the Maritime Safety Committee to reconsider the matter. The Meeting further agreed that the results of consideration on questions relating to common incineration sites in the North Sea should be transmitted to the Oslo Commission, recommending that additional detailed information, e.g. on the behaviour of incineration fumes in certain areas, should be transmitted for further consideration to the Maritime Safety Committee.

#### 4. REPORT OF THE AD HOC GROUP OF LEGAL EXPERTS ON DUMPING

##### Legal instrument for the control of incineration at sea

4.1 The Meeting took note of the Report of the Ad Hoc Group of Legal Experts on Dumping (LDC/LG/4 issued under cover LDC III/4) which met from 26 to 30 June 1978 under the Chairmanship of Mr. S. Van Hoogstraaten (Netherlands) and considered, in particular, recommendations by the Ad Hoc Group for a legal instrument for the control of incineration at sea, which consisted of:

- (1) a draft Resolution adopting amendments to Annexes I and II of the London Dumping Convention and implementing Technical Guidelines for the Control of Incineration at Sea;
- (2) draft texts of the amendments to Annexes I and II of the London Dumping Convention; and
- (3) draft text of Regulations on the Control of Incineration at Sea which was presented in the form of an Addendum to Annex I of the Convention.

4.2 The Meeting further noted that the Ad Hoc Group of Legal Experts was not able to prepare full draft texts of Regulations and Guidelines, but that these had been prepared intersessionally jointly by the United States and Canada (LDC III/4/1) for consideration at the Third Consultative Meeting.

4.3 The above recommendations by the Ad Hoc Group were based on the following principles:

- (1) "incineration at sea" should be construed as a method of disposal at sea of wastes or other matter;
- (2) the most appropriate, expeditious and flexible means for the implementation of the provisions for the control of incineration at sea on a mandatory basis would be to amend Annexes of the London Dumping Convention;
- (3) the provisions should cover not only incineration operations at sea currently being carried out but also those conceivable in the future and therefore both Annexes I and II should be amended;
- (4) provisions for the control of incineration at sea which should be implemented on a mandatory basis, should be included in the Annex of the Convention, while those of a recommendatory nature could be adopted by the Consultative Meeting as Technical Guidelines;
- (5) provisions of paragraphs 8 and 9 of Annex I concerning the concept of trace contaminants and harmlessness apply to incineration at sea.

4.4 Several delegations, supporting in principle the development of an instrument for regulating and controlling incineration at sea, expressed their view that such an instrument should be restricted to the regulation of the incineration of organohalogen wastes (as listed in Annex I, paragraph 1 to the Convention) and that a case by case thorough evaluation should be made of land-based measures and methods available for the treatment of the wastes.

4.5 One delegation drew the attention of the Meeting to the recent discussions at the Third United Nations Conference on the Law of the Sea and requested that these discussions be taken into account when considering the prevention and control of marine pollution arising from incineration at sea.

4.6 Another participant pointed out that an amendment of the Convention with regard to incineration at sea might render the ratification of or accession to the Convention more difficult for governments which have not yet done so.

4.7 In order to consider further the technical and legal aspects of incineration in connexion with a legal instrument on incineration on the basis of the recommendations by the Ad Hoc Group of Legal Experts on Dumping (LDC/LG/4, Annex III) and proposals submitted jointly by the United States and Canada (LDC III/4/1) as well as comments submitted by Japan (LDC III/4/2, LDC III/INF.5) together with those comments put forward by the Meeting, an Ad Hoc Working Group on Incineration was set up.

4.8 The Ad Hoc Working Group was instructed to:

- (1) consider the scope of amendments of the Annexes to the Convention with regard to a legal instrument on incineration at sea;
- (2) prepare a draft of mandatory regulations;
- (3) prepare a draft of Technical Guidelines; and
- (4) review the draft Resolution (LDC/LG/4, Annex III) in the light of comments mentioned above.

4.9 The Meeting in considering the Report of the Ad Hoc Working Group on Incineration at Sea (LDC III/WP.8) took note of the discussion held within the Group, in particular on the scope of Amendments to the Annexes, the draft Regulations for Incineration at Sea, the draft Resolution on Incineration and a proposal brought forward by the delegation of the Netherlands with reference to possible difficulties for States which have not yet ratified the Convention as mentioned in paragraph 4.6 above.

4.10 With regard to the draft Resolution on Incineration at Sea, the Meeting took note of amendments to the Resolution as prepared by the Ad Hoc Working Group (LDC III/WP.8, Annex III). The draft Resolution was reviewed by the Meeting and one delegation expressed the view that this draft Resolution and Regulations contained most of the suggestions brought forward by the delegations of Denmark, Sweden and Norway (LDC III/WP.3). The delegation of the United Kingdom introduced a proposal for an additional preambular statement prepared jointly by the delegations of the Netherlands and the United Kingdom which took into account comments made by several delegations. This proposal, after certain amendments, was agreed by the Meeting.

4.11 The Meeting then reviewed the Attachment to the draft Resolution which contained the amendments to the Annexes to the Convention. One delegation recommended that the reference to paragraph 7 in the proposed amendment to Annex I should be deleted. This proposal was supported by another delegation which expressed the view that this was acceptable since higher standards than those currently contained in the proposed Regulations are necessary to control incineration of such substances at sea. That delegation also pointed out that paragraph 7 substances could be incinerated at sea if the emissions were demonstrated to be trace contaminants in accordance with paragraph 9 of Annex I to the Convention; therefore, to ensure more stringent control of such substances it proposed that the Meeting should take appropriate steps to define the term "trace contaminants" in the context of incineration of paragraph 7 substances at sea. The Meeting agreed to delete the reference to "paragraph 7" from the proposed amendment to Annex I and recognized that the definition of "trace contaminants" was one of those items to be given priority by the Ad Hoc Group on Incineration at Sea.

4.12 The Meeting considered the draft Regulations on incineration at sea prepared by the Ad Hoc Working Group (LDC III/WP.8, Annex II) and agreed on certain amendments.

4.13 The Meeting took note that because of lack of time the Working Group was not able to prepare Technical Guidelines on the Incineration of Wastes or Other Matter at Sea. It was recommended that such Guidelines be established as soon as possible and accordingly the Meeting agreed that intersessional work on this matter should be carried out. Several delegations emphasized that as an interim measure the Technical Guidelines as adopted at the Second Consultative Meeting (LDC II/11, Annex II) with amendments proposed by the Joint Ad Hoc Group on Incineration at Sea (IAS/9, Annex IV), should remain in force until a further revision is carried out and adopted by a Consultative Meeting.

4.14 The Meeting adopted a notification procedure for special permits issued for incineration at sea set out in Annex 2 hereto, recognizing, however, that this procedure will be subject to review by an Ad Hoc Group when considering the Technical Guidelines.

4.15 The Meeting took note of the statement submitted by the delegation of the Netherlands set out in Annex V to LDC III/WP.8.



4.16 Several delegations confirmed the view that with regard to the acceptance of the amendments to the London Dumping Convention, a State which ratifies or accedes to the Convention after these amendments have entered into force, but which is not yet in a position to accept the incineration regulations, can, at the time of ratification or accession, make a reservation to the effect that it does not consider itself to be bound by these amendments.

4.17 The Contracting Parties attending the Third Consultative Meeting, after consideration of comments and proposals mentioned in the aforementioned paragraphs above, adopted by consensus the Resolution on Incineration at Sea and its attachment (Annex 3 hereto) pending corrections for linguistic and editorial consistency in all official languages to be carried out by the Organization.

4.18 The delegation of the USSR made a statement that if the question of amending Annexes to the Convention with regard to incineration had been put to the vote, the USSR delegation would have abstained at this stage. This nevertheless did not prejudice the final position of the USSR on this matter.

#### Procedures for the settlement of disputes

4.19 The Meeting took note of the Report of the Ad Hoc Group of Legal Experts on Dumping (LDC/LG/4 issued under cover LDC III/4) concerning a legal instrument on the procedures for the settlement of disputes under the London Dumping Convention which was mandated by the Resolution adopted by the Second Consultative Meeting (LDC II/11, Annex III). The Meeting noted, in particular, proposals by the Ad Hoc Group (LDC/LG/4, Annex II) which consisted of:

- (1) draft texts of amendments to Articles XIV(4)(a) and XV(1)(a);
- (2) draft text of amendments to Article XI;
- (3) draft text of a new Appendix which contained arbitration procedures;
- (4) draft text of a Resolution adopting these amendments.

4.20 After a preliminary exchange of views, the Meeting established an Ad Hoc Working Group to consider the proposals in detail and to improve the draft texts of the Resolution and amendments. The outcome of the work of the Ad Hoc Working Group was presented in its report (LDC III/WP.11) which contained revisions to the draft texts prepared by the Ad Hoc Group of Legal Experts on Dumping.

4.21 In considering the report of the Ad Hoc Working Group, several delegations expressed a preference for awaiting the conclusion of the Third United Nations Conference on the Law of the Sea before preparing for the London Convention a final set of articles on settlement of disputes, and considered that there was no urgency in concluding this work, particularly since no disputes had yet arisen in the application of the Convention. Other delegations referred to a distinction which might have to be drawn between the procedures for settlement of disputes mentioned in Article X (in connexion with the assessment of liability) and those mentioned in Article XI (concerning the interpretation and application of the Convention). They questioned whether the procedures prepared by the Legal Experts and the Working Group of the Third Consultative Meeting were appropriate to all disputes, particularly those involving more than two parties, and felt that more study should be given to the matter. Some delegations preferred to proceed on an interim basis with the arbitration procedures recommended by the Working Group serving as provisional guidelines for Contracting Parties, and leave for later decision the amendment of the London Convention in this regard.

4.22 A number of delegations pointed to the mandate given by the Convention to adopt suitable procedures, as well as the decision of the Second Consultative Meeting on this subject, and questioned the utility of interim, non-binding provisions for settlement of disputes pending the final adoption of the appropriate amendments. They also emphasized the importance of having mandatory arbitration procedures in force for Contracting Parties before disputes arise. A number of delegations also affirmed that since the Informal Composite Negotiating Text of the Third United Nations Law of the Sea Conference (ICNT) envisaged settlement of disputes procedures under general, regional or special agreements, provisions on settlement of disputes under the London Dumping Convention would be fully consonant with an eventual convention on the law of the sea and hence need not be deferred until the conclusion of the Law of the Sea Conference.

4.23 Finally, with reference to Article X, some delegations took the view that State responsibility in matters of pollution resulting from dumping and the development of procedures for the assessment of liability were highly complex questions and should not delay the adoption of procedures for the settlement of disputes under Article XI. The French delegation with reference to Article 4 of the draft Arbitration Procedure (LDC III/WP.11, Annex I), pointed out that it could not recognize any necessity to include provisions on "counter-claims arising directly out of the subject matter of the dispute" in any public international law.



4.24 The delegation of Chile expressed its concern that the basic issue of the extent and nature of coastal and flag States jurisdiction mentioned in Article XIII of the Convention had not yet been resolved. That delegation further stressed the need to develop substantive norms with a view, also, to complying with the mandate given by Article X, to develop procedures for the assessment of liability in accordance with the principles of international law regarding responsibility for damage to the environment.

4.25 Although some delegations urged further efforts to enable the next Consultative Meeting to reach a consensus on the issue, after extensive debate of these questions, the general opinion of the Consultative Meeting was that a decision at the current session would be necessary. Accordingly, a vote was taken on the adoption of amendments to the Convention, to be attached to a Resolution of the Meeting, and these amendments were adopted in accordance with paragraph 1(a) of Article XV of the Convention by a vote of 11 in favour, 4 against, with 1 abstention. The necessary concurring votes of two-thirds of the Contracting Parties present was thus attained.

4.26 The adopted Resolution and its attachments appear at Annex 4 hereto.

4.27 After the voting the delegations of Chile, Portugal and the USSR made Statements explaining their votes. These statements are shown at Annex 5 hereto.

#### 5. REPORT OF THE AD HOC SCIENTIFIC GROUP ON DUMPING

5.1 The Meeting considered and approved, in general, the Report of the Ad Hoc Scientific Group on Dumping (LDC/SG II/8 under cover of LDC III/5 and LDC III/5/Add.1) which met intersessionally from 26 to 30 June 1978 under the Chairmanship of Dr. M. Waldichuk (Canada). In introducing the Report, the Chairman of the Group described the action taken by the Ad Hoc Scientific Group with respect to the various items referred to it, including:

- (1) further development of the draft Guidelines for the interpretation of "harmlessness" and "trace contaminants";
- (2) consideration of the definition of "significant amounts" of Annex II substances;
- (3) presentation and preliminary discussion of background documentation for proposed amendments of Annexes I and II;

- (4) review of criteria for inclusion of substances into Annexes I and II and consideration of a classification system;
- (5) proposal for amendments of Annex III;
- (6) development of criteria for designation of emergency dumping sites;
- (7) interim notification procedure;
- (8) criteria for design of vessels engaged in dumping; and
- (9) proposed procedure for convening future meetings.

5.2 The Meeting considered the draft Guidelines mentioned in (1) above and, after some discussion, adopted the Guidelines, on an interim basis, with minor amendments as shown at Annex 6 hereto.

5.3 The Meeting noted that with regard to the definition of "significant amounts", four definitions were proposed but no agreement had been reached by the Ad Hoc Scientific Group. This matter would therefore be considered further at the next session of the Group. In the meantime, the Meeting reaffirmed its previous decision that the interim definition of 0.1 per cent or more by weight of Annex II substances should continue to apply.

5.4 The Meeting noted that no detailed discussion of the background material presented in support of amendments in Annexes I and II was possible at the second session of the Ad Hoc Scientific Group, because many delegations had insufficient time to review the documents. This matter will receive high priority at the next session of the Ad Hoc Scientific Group. Contracting Parties were urged to submit comments on the proposed amendments for circulation by the Secretariat.

5.5 The Meeting was informed that proposed amendments to Annex III, which had been presented by Australia orally at the Second Consultative Meeting, were formally submitted in an Information Paper at the second session of the Scientific Group (LDC/SG II/INF.4). It was decided by that meeting that the proposals should be supported by appropriate documentation at the next session of the Ad Hoc Scientific Group. Development of criteria for designation of emergency dumping sites was deferred, inasmuch as there was insufficient experience to provide guidance. The Meeting noted that Denmark had offered to provide a report on dumping of gas munitions which had originally been dumped after the Second World War with permission from the Allied Forces. (This report in the meantime has been received by the Secretariat.) The Meeting urged other Contracting Parties to provide also any information they may have on emergency dumpings.

5.6 The Meeting endorsed the view of the Ad Hoc Scientific Group that the present interim notification procedure is adequate and should be retained for the time being. One of the problems experienced by the Secretariat is incomplete reporting, in particular:

- (1) only a few States (10 States) have submitted the information;
- (2) the information submitted by some countries might not always include all the permits issued by those countries;
- (3) permits issued for the dumping of dredged material very often are issued as "open permits" with no quantities specified;
- (4) permits issued for the dumping of radioactive wastes and other matter are in most cases currently notified in a different format from that specified in the Interim Notification Procedure (LDC I/16, Annex IV); and
- (5) for those States which have not reported, there is no way to determine if there has been any dumping in those countries.

The Meeting requested the Secretariat to urge Governments to submit reports, including "Nil" reports in cases of no dumping, direct or through the appropriate regional organizations.

5.7 Having regard to the recommendation of the Ad Hoc Scientific Group on reports on the wastes actually dumped (LDC/SG II/8, paragraph 52) and Article VI of the Convention, the Meeting agreed that the Contracting Parties and other States concerned should be requested to prepare annual reports on actual dumpings carried out and submit them directly or through appropriate regional organizations. In this connexion, the Meeting agreed that such reports should be submitted, on a voluntary basis, in the form adopted by the Oslo Commission (LDC III/WP.4) and with regard to the dumping of radioactive wastes in a form prepared by the OECD/NEA (LDC III/6/1, Annex).

5.8 The Meeting further agreed that the above forms should be reviewed by the Ad Hoc Scientific Group which should make recommendations to the Fourth Consultative Meeting concerning an appropriate form to be used for the London Dumping Convention.

5.9 With regard to the design of vessels engaged in dumping, the Meeting endorsed the views of the Ad Hoc Scientific Group that the Secretariat should provide the essential information to the Sub-Committee on Bulk Chemicals. However, some delegations expressed concern that an officially

developed design of dumping vessels might be interpreted as encouragement of dumping activities. Moreover, the view was expressed that it might be inappropriate for the Sub-Committee on Bulk Chemicals to be involved in developing criteria for the design of dumping vessels.

5.10 The Meeting noted a submission made by the United States delegation on procedures for consideration of proposals regarding interpretation or amendment of Annexes to the London Dumping Convention (LDC/SG II/8, Annex IV). The Meeting endorsed the proposed procedure (shown at Annex 7 hereto) and instructed the Ad Hoc Scientific Group to follow that procedure as far as practicable.

## 6. DUMPING OF RADIOACTIVE SUBSTANCES

6.1 The Meeting took note of the IAEA Revised Definition and Recommendations presented in LDC III/6 and the Practical Arrangements for the Implementation of the OECD Council Decision presented in LDC III/6/1. In presenting the Definition and Recommendations, the IAEA observer made certain comments and observations which are reproduced in Annex 8 hereto.

6.2 The OECD observer presented the document prepared by the Secretariat of the OECD Nuclear Energy Agency on practical arrangements for implementing the OECD Council decision to establish a multilateral consultation and surveillance mechanism. This was intended to reinforce international co-operation in the development and updating of standards, guidelines and procedures for protecting the marine environment against pollution caused by sea-dumping of radioactive materials. The mechanism also included assessments of dumping sites and related environmental aspects, procedures for notification and consultation on proposed dumping conditions, international surveillance of operations by NEA representatives and recording of the operations and reporting to appropriate international organizations.

6.3 The Meeting generally expressed its appreciation to IAEA for its efforts in revising the Definition and endorsed the Revised Definition as being a great improvement over the provisional definition. The Meeting also recognized the progress IAEA had made in the work programme it had undertaken as the result of comments at the First Consultative Meeting and encouraged IAEA to continue with this programme in further review and revision of the Definition.

6.4 The IAEA observer stated in his opening comments that the footnote to the Revised Definition should be regarded as explanatory material and not part of the Definition itself. This interpretation was accepted by

the Meeting, and several delegations suggested that IAEA should consider moving the footnote to the Annex to the Definition, where the remainder of the explanatory material is located. The United Kingdom delegation thought that the footnote should be retained in its present location.

6.5 Most delegations disagreed at this time with the suggestion conveyed to the IAEA by several Scientific Advisory Groups that paragraph 6 of Annex I of the Convention should be revised to be conceptually consistent with the revised Definition. Many delegations expressed the view that radioactive waste disposal in the ocean should be discouraged and that prohibition of dumping high-level radioactive wastes should be retained.

6.6 The United Kingdom delegation pointed out that the final step in arriving at the Revised Definition lacks scientific validity, and that the London Dumping Convention should be implemented by using a Definition which is scientifically valid and justifiable. That delegation proposed that IAEA be invited to advise formally on a scientifically valid basis for the control of dumping of radioactive waste, and noted that, if this basis did not conceptually agree with the present paragraph 6 of Annex I of the Convention, then the Contracting Parties might choose to consider appropriate amendments to Annex I. The United Kingdom delegation also regarded additional surveillance by IMCO as an unnecessary elaboration on the present surveillance system which can be made to operate satisfactorily and expressed the view that there is no justification for treating radioactive wastes differently from other materials regulated under the London Dumping Convention.

6.7 The Portuguese delegation expressed the view that the revised Definition and the OECD note together covered all aspects of radioactive waste disposal in the ocean. That delegation noted, however, that other States should follow the example of the USSR and the United States which no longer dump radioactive wastes.

6.8 The delegation of the Federal Republic of Germany had the impression that the statement of the IAEA observer implied that no immediate revision of the Revised Definition was contemplated. That delegation pointed out, however, that the Federal Republic of Germany had expressed firm reservations concerning the Revised Definition, especially with the aim of achieving a more stringent permissible dose commitment, as stated in the comments at the 521st meeting of the IAEA Board of Governors (LDC III/INF.3). It reaffirmed the reservation of the Federal Republic



of Germany and urged that the IAEA should be encouraged to continue its work. The IAEA observer indicated that the Revised Definition and Recommendations will be kept under continuing review by the IAEA, with a view to having them further revised as and when appropriate, in the light of technological developments and increased scientific knowledge.

6.9 The United States delegation stated that IAEA should give high priority to the remaining items on its work programme undertaken as the result of comments at the First Consultative Meeting and should be urged to undertake an additional programme of work to improve the Revised Definition as soon as possible in response to comments at the Meeting. The work programme proposed by the United States delegation and presented in LDC III/WP.5/Rev.2 (Annex 9) includes, in particular, requests as follows:

- (1) technical justification for raising the average gross mass from 100 to 1,000 tonnes;
- (2) more specific recommendations for environmental monitoring;
- (3) developments of techniques for assessing localized impacts on sensitive elements of the marine environment; and
- (4) establishment of a global limit on the number of dump sites.

6.10 The United States delegation also expressed strong reservations concerning the use of the release rate concept until such time as containment systems with quantifiable release rates are developed. That delegation supported the opinion of IAEA on the need for an environmental assessment report pursuant to Article VI(4) of the Convention and the proposed OECD implementation of improved surveillance of dumping of radioactive wastes. The United States delegation expressed the view that all Contracting Parties should have an opportunity to comment on the IAEA Revised Definition and that the comments made at the Meeting should be sent to the IAEA and circulated to all Contracting Parties along with the IAEA Revised Definition and Recommendations. The United States delegation then expressed its support for the practical arrangements of the NEA for implementation of the OECD Council Decision (LDC III/6/1) and made comments thereon as contained in LDC III/WP.6.

6.11 The USSR delegation expressed the opinion that the selection of areas for dumping of radioactive wastes should be sufficiently supported by scientific considerations taking into account oceanographic and other factors

and that reducing the number of dumping sites is desirable. That delegation also requested the IAEA to further clarify the basis of the Revised Definition concerning averaging the radioactivity of wastes over 1,000 tons instead of 100 gross tons of wastes and to explain the scientific justification of the proposed monitoring. The IAEA observer stated that these matters are discussed in the Annex to the Revised Definition.

6.12 The Canadian delegation noted that the release rate is based on the total of all sources of radioactive wastes entering the ocean and suggested that IAEA should develop an inventory of radioactive waste releases in order to set more adequate release rate limits. The IAEA observer pointed out that such an inventory would be a long term programme, but IAEA will attempt to include this in the work programme and will work closely with the United Nations Scientific Committee on the Effects of Atomic Radiation in developing such an inventory.

6.13 The delegate of Norway pointed out that Norway objects in principle to any radioactive waste dumping and also objects to the concept that no high-level radioactive waste is intrinsically unsuitable for ocean dumping.

6.14 The Chairman invited delegations present at the Meeting to provide written comments to the Secretariat. Comments were accordingly provided during the Meeting by the delegations of Canada (LDC III/WP.1), Federal Republic of Germany (LDC III/WP.2), Portugal (LDC III/WP.10), USSR (LDC III/WP.9), the United Kingdom (LDC III/WP.7) and the United States (LDC III/WP.5/Rev.2). These comments on the IAEA Revised Definition and Recommendations, together with the Summary of Comments made by the Members of the IAEA Board of Governors at the 521st Meeting (LDC III/INF.3) are set out at Annex 9 hereto. Further comments would be submitted after the Meeting. The OECD Note (LDC III/6/1) and the comments thereon by the United States delegation (LDC III/WP.6) are contained in Annex 10.

6.15 After lengthy discussions of the subject, the Meeting agreed:

- (1) to take note of the IAEA Revised Definition and Recommendations (INFCIRC/205/Add.1/Rev.1);
- (2) to request the Secretary-General to circulate the document to the Contracting Parties and Signatories for the purposes of implementation of the London Dumping Convention, as a replacement



of the Provisional Definition and Recommendations (LDC 2/Circ.2 of 22 November 1976), and, in doing so, inform them that the Definition and Recommendations should not be construed as encouraging in any way the dumping at sea of radioactive wastes and other radioactive matter;

- (3) to request the Secretary-General to circulate at the same time to the Contracting Parties and Signatories the comments on the IAEA Revised Definition and Recommendations (Annex 9 to this Report), inviting them to submit any further comments on the above document;
- (4) to request the Secretary-General:
  - (a) to convey to the IAEA Director-General the appreciation for the work carried out by that Agency;
  - (b) to transmit to him the comments made at the Third Consultative Meeting on the IAEA document (Annex 9 to this Report);
  - (c) to inform him of the view of the Consultative Meeting that the IAEA document should be kept under continuing review in response to the above comments;
  - (d) to transmit to him any additional comments and recommendations referred to in sub-paragraph (3) above; and
- (5) to take note of the OECD/NEA note (LDC III/6/1 shown at Annex 10 to this Report) on the practical arrangements for the implementation of the OECD Council Decision, which were considered satisfactory, at least for the time being, for the purposes of implementation of C.7.3 of the IAEA Recommendations and to transmit to the OECD Secretary-General any written comments on the OECD/NEA note provided to the Secretariat.

## 7. REVIEW OF THE ANNUAL REPORT ON PERMITS ISSUED DURING 1977 AND RESEARCH AND MONITORING PROGRAMMES

7.1 The Meeting took note of a summary prepared by the Secretariat of reports submitted by Contracting Parties and interested Governments on the issue of permits during 1977 for dumping including incineration at

sea (LDC III/7, and LDC III/7/Add.1). It was noted that to date information had been received from:

- (1) General Permits: Australia, Canada, Germany, Federal Republic of, France, Norway, Sweden, United Kingdom (in respect of Hong Kong);
- (2) Special Permits: Canada, United Kingdom and United States.

Further information concerning the dumping of radioactive substances carried out by the Netherlands, Switzerland and the United Kingdom had also been received through the OECD Secretariat.

7.2 The Spanish delegation stated that the requisite information was now being prepared and would be forwarded to the Secretariat in the near future. The United Kingdom delegation also informed the meeting that a report on general permits had been submitted to the Oslo Convention Secretariat and would reach IMCO shortly.

7.3 The Meeting emphasized the need for all Contracting Parties and other States to submit the required information including "Nil" reports in good time each year so as to facilitate the preparation of a comprehensive annual report and the review of the overall dumping situation by the Consultative Meeting.

## 8. PROMOTION OF TECHNICAL ASSISTANCE

### Lists of experts

8.1 The Meeting took note of an updated list of experts and institutions (LDC III/8, Annex I) prepared by the Secretariat on the basis of nominations and information provided by governments and also of further information provided by IAEA (LDC III/8, Annex II) identifying experts working in the field of radioactivity (nuclear experts) and experts with an oceanographic background (non-nuclear experts). With respect to the former list, it was noted that, with regard to certain countries, only one expert had been included as the focal point for dealing with requests for assistance. The lists were therefore not exhaustive and other experts could be made available in any particular case.

8.2 The Meeting expressed appreciation for this information and agreed that all these lists should be kept up to date as much as possible and, to this end, requested governments to submit any additional nominations or amendments to the lists to the Secretariat.

8.3 The Secretary explained that in pursuing technical assistance programmes, experts are normally appointed by the Organization through governments, and therefore, nomination of experts to be included in the list does not imply that they may be contacted directly for the implementation of specific technical assistance programmes.

#### Bibliography

8.4 With regard to the preparation of a bibliography of reports, publications and other documents, the Meeting noted that some information had been submitted by Denmark, the United Kingdom and the IAEA. Further information was expected from Canada in the near future. While appreciating this information, the Meeting noted that it was not yet sufficient to begin the compilation of the bibliography required. The Meeting therefore urged other governments concerned to provide the Secretariat with available information as soon as possible.

#### Technical assistance activities of the Organization

8.5 The Meeting noted a summary of information provided by the Secretariat concerning the development and implementation of technical assistance projects and related activities in the field of marine pollution (LDC III/8/1). Those activities were being pursued under four main headings:

- (1) projects supported by UNEP, UNDP and Funds in Trust arrangements;
- (2) the UNEP Regional Seas Programme;
- (3) implementation of IMCO Conventions and related Protocols;
- (4) Secretariat arrangements to ensure that the above activities are adequately supported and administered.

8.6 In expressing appreciation for the active role played by IMCO in the implementation of the Regional Seas Programme, the observer from UNEP explained that the full Programme embraced not only those aspects which relate to pollution from ships, but also other types of pollution, including dumping and land-based sources. The Programme also covered the scientific, legal and environmental management aspects of these matters.

8.7 The Portuguese delegation informed the Meeting that an oceanographic programme has been carried out in the Ibero-African-Atlantic Region since June 1978 with participation from the following countries (in geographical order): Spain, Portugal, Morocco, Mauritania, Senegal, Guinea-Bissau and

Cape Verde. This joint programme also includes studies of marine pollution with reference in particular to pollution arising from dumping of wastes and other matter. The delegation of Portugal further announced that after having received the reaction of the International Oceanographic Commission (IOC) on this matter, participating countries would now submit details of their projects to IMCO for further consideration.

#### Methods of disposal and treatment of wastes

8.8 With reference to Article IX(c) of the London Dumping Convention and the preparation of a manual or guidelines on "the disposal and treatment of waste and other measures to prevent or mitigate pollution caused by dumping", the Meeting noted that GESAMP was continuing its work on:

- (1) the revision and completion of an existing document on Management of Waste Disposal (GESAMP IV/19, Annex VI); and
- (2) the evaluation of alternative methods for controlling the release of potentially harmful substances into the marine environment.

8.9 The Meeting expressed appreciation to GESAMP for this work which would be extremely valuable, particularly to developing countries concerned with problems of waste disposal, and invited GESAMP to pursue the work further, bearing in mind the objectives of the London Dumping Convention.

8.10 The Swedish delegation proposed that Contracting Parties should exchange information on methods of land-based treatment and disposal of certain wastes as a means of avoiding the need to dump waste into the sea. The Meeting supported this proposal and invited Contracting Parties to submit information on these aspects to the Secretariat for subsequent circulation to governments for their information. The Meeting also agreed that this subject should be included in the Agenda for the next session of the Ad Hoc Scientific Group on Dumping, which should consider how best this work could be pursued, such as the identification of priority substances.

#### 9. RELATIONS WITH OTHER ORGANIZATIONS

9.1 The Meeting took note of the information provided by the Secretariat (LDC III/9) summarizing further developments towards establishing working arrangements between the IMCO Secretariat and the Secretariats of regional conventions, including the Oslo Convention, Barcelona Convention, Helsinki Convention and the Paris Convention.

9.2 The Meeting reaffirmed the views expressed at the previous Meeting that the main effort in this field should be directed towards the following matters:

- (1) exchange of documentation and other information;
- (2) mutual representation at meeting; and
- (3) harmonization of certain reporting procedure.

9.3 The Meeting expressed satisfaction for the action taken by the IMCO Secretariat on this matter and requested it to make a further effort to improve the relationship with the Secretariats of regional conventions in order to enhance the objectives of Article XIV(4)(d) of the Convention. The observer from the Oslo Commission Secretariat expressed appreciation to the IMCO Secretariat for the co-operation made between both Secretariats with respect to the London and Oslo Convention.

9.4 The Portuguese delegation stressed the importance of maintaining close relationship with the Paris Convention as well as other conventions specifically relating to dumping, as the control of disposal of shore-based wastes by dumping should have regard to the control of direct discharge of land-based wastes.

9.5 In relation to the Helsinki Convention the Meeting took note of a booklet (LDC III/INF.2) submitted by the Finnish Baltic Sea Committee entitled "Man and the Baltic Sea". This booklet gave background information on the Convention, as well as on the activities of the Interim Baltic Marine Environment Protection Commission.

#### 10. PROTECTION OF PARTICULARLY SENSITIVE SEA AREAS

10.1 The Meeting took note of LDC III/10 prepared by the Secretariat relating to Resolution 9 (Protection of Particularly Sensitive Areas) adopted by the International Conference on Tanker Safety and Pollution Prevention, 1978 which was held in London from 6-17 February 1978. The Secretary reported on the views expressed by the MEPC and GESAMP on this matter. The latter had agreed that it would not be appropriate for GESAMP to prepare an inventory of geographical areas to be regarded as particularly sensitive areas. GESAMP had taken the view that its primary function was to provide scientific advice to IMCO which would facilitate the identification of sea areas which were particularly vulnerable, including the factors to be taken into account in such identification; secondly, that it could compile a bibliography of available material.



10.2 The Portuguese delegation expressed the view that GESAMP should be invited to give all available scientific information to enable Contracting Parties to identify a number of marine zones in which dumping appears to be less dangerous. That delegation favoured the limitation of the number of dumping sites because, with fewer sites, control of the potential effects of dumping could be exercised more effectively. Furthermore, in the view of the Portuguese delegation, the concept that all non-sensitive areas could be utilized for dumping was unacceptable. That delegation also proposed that "sensitive" zones could be identified by criteria developed in relation to the control of undesirable effects of dumping on areas outside the dumping sites. The Portuguese delegation pointed out that these views should be brought to the attention of GESAMP in dealing with this subject.

10.3 Referring to Article IV of the Convention which provides for careful consideration of all factors set out in Annex III to the Convention when issuing permits for dumping, the Norwegian delegation expressed its opinion that this implies the prohibition of any dumping in particularly sensitive areas.

10.4 The USSR delegation supported by other delegations, expressed the view that the Meeting should have regard to the different circumstances between pollution from ships which is dealt with by the 1973 MARPOL Convention and the Tanker Safety and Pollution Prevention Protocols, 1978, and that caused by dumping. The latter was a deliberate act arising from a conscious decision of the competent authorities of a Contracting Party. This decision had to be based upon, for example, Annex III of the Convention whereby consideration had to be given to the impact of the particular waste or other matter on the site selected for the dumping. That delegation was concerned that by designating areas sensitive to dumping activities the impression might be given that dumping elsewhere would not lead to damage to the marine environment. That delegation recommended that GESAMP should be asked to provide advice which would facilitate the identification of areas which are less sensitive to dumping.

10.5 The United Kingdom delegation, whilst supporting the philosophy of the USSR delegation, pointed out that most dumping took place in coastal waters and a sensitive area might be very restricted and therefore it would be illogical to define whole sea areas as sensitive. That delegation recommended that GESAMP should be requested to update GESAMP Report No. 3 entitled "Scientific Criteria for the Selection of Sites for the Dumping of Wastes into the Sea" in order to facilitate the selection of sites which will minimize

the effect on the marine environment of the particular waste or other matter which is to be dumped and to compile a bibliography of available material.

10.6 Two delegations expressed their particular interest in the work already carried out by GESAMP with regard to the definition of scientific criteria which may assist in the identification of sensitive areas.

10.7 After an exchange of views the Meeting concluded that as regards the London Dumping Convention the views expressed during the Meeting should be conveyed to GESAMP, which should be requested to develop further the scientific criteria for the selection of sites which will minimize the effect on the marine environment of the particular waste or other matter which is to be dumped. Furthermore, GESAMP should be requested to compile a bibliography of available material.

## 11. OTHER MATTERS

11.1 The Netherlands delegation drew attention to the action taken by SACSAs at its sixth meeting in Copenhagen (18-22 September 1978), in recommending that the review of the Annexes to the Oslo Convention should henceforth be carried out on a regular basis every five years unless special circumstances made it necessary to do otherwise. That delegation proposed that the Consultative Meeting should consider the possibility of adopting a similar procedure under the London Dumping Convention. The Meeting requested the Ad Hoc Scientific Group on Dumping to examine this question and make recommendations to the Consultative Meeting accordingly.

11.2 The Secretary informed the Meeting that at the Conference on International Maritime Policies: Pollution (Ditchley Park, Oxfordshire, 6-8 October 1978), it was pointed out that whereas in conventions relating to vessel-source pollution detailed mechanism exists for the enforcement of conventions, including the detection of harmful discharges, penalties, casualty investigations, reporting of deficiencies in ships, etc. and the implementation of enforcement provisions are continuously monitored by IMCO bodies, there appeared to be little information on the enforcement of conventions relating to dumping.

## 12. FUTURE WORK PROGRAMME

12.1 The Meeting considered the future programme of the Consultative Meeting and its subsidiary bodies in the light of the note prepared by the Secretariat (LDC III/11) and the progress of work made during the present meeting.



Agenda for the Fourth Consultative Meeting

12.2 The Meeting agreed on the substantive items to be included in the Agenda for the Fourth Consultative Meeting as follows:

- (1) Consideration of the report of the Ad Hoc Scientific Group on Dumping.
- (2) Consideration of the report of the Ad Hoc Group on Incineration at Sea.
- (3) Review of comments and observations on the revised IAEA Definition and Recommendations on dumping of radioactive substances.
- (4) Review of the annual reports on dumping.
- (5) Procedures for the effective application of the Convention in accordance with Article VII(3).
- (6) Relation with other organizations.
- (7) Review of the Action Plan (LDC I/16, Annex VII).

12.3 With regard to item (5) mentioned in paragraph 12.2 above, the Canadian delegation expressed its readiness to prepare material for future considerations and invited all other Contracting Parties to do likewise.

Arrangements for intersessional work

12.4 The Meeting agreed that during the next intersessional period, the following meetings of Ad Hoc Groups should be convened:

- Ad Hoc Group on Incineration at Sea (19-23 February 1979)
- Ad Hoc Scientific Group on Dumping (19-23 March 1979)

12.5 Substantive items to be included in the Agenda for the above meetings should be as follows:

Ad Hoc Scientific Group on Dumping

- (1) Review of proposals and documentation for Annex I amendments.
- (2) Review of proposals and documentation for Annex II amendments.
- (3) Definition of "significant amount" of Annex II materials.
- (4) Review of proposals and documentation for Annex III amendments.
- (5) Criteria for selection of non-industrial wastes (sewage sludge and dredged spoils) for mandatory testing for "trace contaminants".

- (6) Review of the suitability of the Oslo Commission format and modifications for reporting the type and amounts of wastes actually dumped.
- (7) Consideration of priority substances in wastes for treatment.
- (8) Consideration of the frequency regarding the review of Annexes to the Convention.
- (9) Consideration of the outcome of the Sub-Committee on Bulk Chemicals concerning the construction and equipment of ships engaged in dumping.
- (10) Consideration of criteria for the identification of sensitive areas with regard to dumping.

Ad Hoc Group on Incineration at Sea

- (1) Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea.
- (2) Definition of the term "trace contaminants" with regard to incineration at sea.
- (3) Definition of "significant amounts" of Annex II substances with regard to incineration at sea.
- (4) Results of recent research work on incineration.

12.6 With regard to the advisability of convening joint Groups with regional conventions, the Meeting did not consider it necessary to take decisions at this point in time but the possibility of such joint meetings would be open as and when specific need would arise.

Proposals for budgetary provisions for the 1980/1981 biennium

12.7 The Meeting considered provisions which it recommends to be included in the IMCO budget for the 1980/1981 biennium in order to cover dumping activities. In this connexion several delegations expressed the view that in order to facilitate its work, the Ad Hoc Scientific Group on Dumping should be conducted with full interpretation in the similar manner to the Consultative Meeting itself. It was understood, however, that this proposal did not necessarily mean that that Group should automatically meet during the intersessional period every year; the need for convening meetings of that Group or any other subsidiary bodies would be decided at each Consultative Meeting.

12.8 The Meeting reaffirmed its previous decision that the Consultative Meeting should be held annually.

12.9 In the light of the above the Meeting decided to recommend to the Secretary-General that the following provisions should be included in the budget for the next biennium to cover activities relating to dumping:

- (1) two meeting-weeks for each year of 1980 and 1981 for the Consultative Meeting and its subsidiary bodies;
- (2) a sum of \$20,000 per year to cover activities of IMCO relating to marine pollution, including dumping, which have not been included elsewhere in the budget.

Date of next meeting

12.10 The Meeting agreed that the Fourth Consultative Meeting should be held from 22-26 October 1979.

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ANNEX 1

## AGENDA FOR THE THIRD CONSULTATIVE MEETING

## 1. Adoption of the Agenda; Report on Credentials

LDC III/1	- Secretariat
LDC III/1/1	- Secretariat
LDC III/1/2	- Secretariat

## 2. Report of the Secretary-General on the Status of the London Dumping Convention

LDC III/2	- Secretariat
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## 3. Consideration of the report of the Joint Ad Hoc Group on Incineration at Sea (21-23 June 1978)

LDC III/3	- Secretariat
LDC III/INF.4	- Secretariat

## 4. Consideration of the report of the Ad Hoc Group of Legal Experts on Dumping (26-30 June 1978):

LDC III/4	- Secretariat
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## (a) a legal instrument for the control of incineration at sea

LDC III/4/1	- United States and Canada
LDC III/4/2	- Japan
LDC III/INF.5	- Japan
LDC III/WP.3	- Denmark, Sweden and Norway
LDC III/WP.8	- Ad Hoc Working Group on Incineration at Sea

## (b) procedures for the settlement of disputes

LDC III/WP.11	- Ad Hoc Working Group on Settlement of Disputes
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## 5. Consideration of the report of the Ad Hoc Scientific Group on Dumping

LDC III/5	- Secretariat
LDC III/5/Add.1	- Secretariat

## 6. Dumping of radioactive substances

LDC III/6	- Secretariat
LDC III/6/1	- OECD/NEA
LDC III/INF.3	- IAEA
LDC III/WP.1	- Canada
LDC III/WP.2	- Federal Republic of Germany
LDC III/WP.4	- Secretariat
LDC III/WP.5/Rev.2	- United States
LDC III/WP.6	- United States
LDC III/WP.7	- United Kingdom
LDC III/WP.9	- USSR
LDC III/WP.10	- Portugal
LDC III/WP.12	- IAEA

7. Review of the annual report on permits issued during 1977, and research and monitoring programmes

LDC III/7 - Secretariat  
LDC III/7/Add.1 - Secretariat

8. Promotion of technical assistance

LDC III/8 - Secretariat  
LDC III/8/1 - Secretariat

9. Relations with other organizations

LDC III/9 - Secretariat  
LDC III/INF.2 - Finnish Baltic Sea Committee

10. Protection of particularly sensitive sea areas

LDC III/10 - Secretariat

11. Any other business

12. Future work programme and date of next session

LDC III/11 - Secretariat

13. Consideration and adoption of the report

LDC III/WP.13 - Secretariat  
LDC III/12 - Report

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ANNEX 2NOTIFICATION OF SPECIAL PERMITS TO INCINERATE  
WASTES AND OTHER MATTER AT SEA

The Organization shall be notified immediately following issuance of a special permit to incinerate wastes or other matter at sea. The form of report for notification is given in the Appendix.

## APPENDIX

The notification shall contain the following information for each special permit:

- (a) issuing authorities;
- (b) date issued;
- (c) period for which the permit is valid;
- (d) country of origin of wastes and port of loading;
- (e) total quantity of wastes (in metric units) covered by the permit;
- (f) form in which the waste is presented (bulk or containers; in the latter case, also size and labelling);
- (g) composition of the waste (physical form; specific gravity; viscosity; water content; principal organic components; organohalogens; main inorganic components; (radioactive or not) solids in suspension; caloric value; other properties such as, if necessary, toxicity and persistence; specify whether the analysis relates to dry or wet weight; give the above-mentioned information in ppm in the case of low concentrations);
- (h) industrial process giving rise to the waste;
- (i) name of the marine incineration facility and state of registration;
- (j) area of incineration (geographical location; distance from the nearest coast);
- (k) expected frequencies of incineration;
- (l) special conditions such as to the operation of the marine incineration facility outside those specified in the Regulations or Technical Guidelines.

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ANNEX 3

## INCINERATION AT SEA

Resolution adopted on 12 October 1978

## THE THIRD 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,

HAVING NOTED the use of incineration at sea as a means of disposal of wastes containing highly toxic substances and the consequent risks of marine and atmospheric pollution which may result from this process,

DESIRING to prevent such pollution and to minimize the risk of hazards to other vessels or interference with other legitimate uses of the sea which could arise from incineration operations at sea,

RECOGNIZING present methods of incineration at sea as being an interim method of disposal of wastes pending the development of environmentally better solutions, considering at all times the best available technology,

AFFIRMING that the intention of the adoption of mandatory provisions for the control of incineration at sea is not to increase the amounts and kinds of wastes or other matter incinerated at sea for which there are available practical alternative land-based methods of treatment, disposal or elimination,

REAFFIRMING that, in accordance with Article IV(3) of the Convention, Contracting Parties can apply additional regulations for incineration at sea on a national basis,

NOTING that Article VIII of the Convention encourages Contracting Parties, within the framework of regional conventions, to develop further agreements reflecting the conditions of the geographical area concerned,

RECALLING the decision of the Second Consultative Meeting that provisions for the control of incineration at sea should be implemented by Contracting Parties on a mandatory basis in the form of a legal instrument adopted within the framework of the Convention (LDC II/11, Annex II),

HAVING CONSIDERED the proposed amendments to the Annexes of the Convention for the control of incineration at sea contained in the Report of the Ad Hoc Group of Legal Experts on Dumping,



ADOPTS the following amendments to the Annexes to the Convention in accordance with Articles XIV(4)(a) and XV(2) thereof:

- (a) addition of a paragraph 10 to Annex I;
- (b) addition of a paragraph E to Annex II; and
- (c) addition of an Addendum to Annex I, containing Regulations for the Control of Incineration of Wastes and Other Matter at Sea,

the texts of which are set out in Attachment to this Resolution,

ENTRUSTS the Inter-Governmental Maritime Consultative Organization with the task of ensuring, in collaboration with the Governments of France, Spain, the Union of Soviet Socialist Republics and the United Kingdom, that the texts of the above Amendments are drawn up by 1 December 1978 in all official languages of the Convention with the linguistic consistency in each text, which would then become the authentic text of the Annexes to the Convention in the English, French, Russian and Spanish languages,

RESOLVES that for the purposes of Articles XIV(4)(a) and XV(2) of the Convention, 1 December 1978 shall be treated as the date of the adoption of the amendments,

REQUESTS the Secretary-General of the Organization to inform Contracting Parties of the above-mentioned amendments,

REQUESTS the Ad Hoc Group on Incineration at Sea to prepare draft Technical Guidelines for the Control of Incineration of Wastes and Other Matter at Sea with a view to adoption by the Fourth Consultative Meeting,

INVITES Contracting Parties to implement, as an interim measure, the existing Technical Guidelines (LDC II/11, Annex II, with amendments (IAS/9, Annex IV)) and the notification procedure set out in Annex 2 to LDC III/12.

Attachment

AMENDMENTS TO ANNEXES TO THE CONVENTION  
ON THE PREVENTION OF MARINE POLLUTION  
BY DUMPING OF WASTES AND OTHER MATTER  
CONCERNING INCINERATION AT SEA

The following paragraph shall be added to Annex I:

10. Paragraphs 1 and 5 of this Annex do not apply to the disposal of wastes or other matter referred to in these paragraphs by means of incineration at sea. Incineration of such wastes or other matter at sea requires a prior special permit. In the issue of special permits for incineration the Contracting Parties shall apply the Regulations for the Control of Incineration of Wastes and Other Matter at Sea set forth in the Addendum to this Annex (which shall constitute an integral part of this Annex) 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 following paragraph shall be added to Annex II;

E. In the issue of special permits for the incineration of substances and materials listed in this Annex, the Contracting Parties shall apply the Regulations for the Control of Incineration of Wastes and Other Matter at Sea set forth in the Addendum to Annex I 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, to the extent specified in these Regulations and Guidelines.

ADDENDUM

REGULATIONS FOR THE CONTROL OF INCINERATION OF  
WASTES AND OTHER MATTER AT SEA

PART I

REGULATION 1

Definitions

For the purposes of this Addendum:

- (1) "Marine incineration facility" means a vessel, platform, or other man-made structure operating for the purpose of incineration at sea.
- (2) "Incineration at sea" means the deliberate combustion of wastes or other matter on marine incineration facilities for the purpose of their thermal destruction. Activities incidental to the normal operation of vessels, platforms or other man-made structures are excluded from the scope of this definition.

REGULATION 2

Application

- (1) Part II of these Regulations shall apply to the following wastes or other matter:
  - (a) those referred to in paragraph 1 of Annex I;
  - (b) pesticides and their by-products not covered in Annex I.
- (2) Contracting Parties shall first consider the practical availability of alternative land-based methods of treatment, disposal or elimination, or of treatment to render the wastes or other matter less harmful, before issuing a permit for incineration at sea in accordance with these Regulations. Incineration at sea shall in no way be interpreted as discouraging progress towards environmentally better solutions including the development of new techniques.
- (3) Incineration at sea of wastes or other matter referred to in paragraph 10 of Annex I and paragraph E of Annex II, other than those referred to in paragraph (1) of this Regulation, shall be controlled to the satisfaction of the Contracting Party issuing the special permit.
- (4) Incineration at sea of wastes or other matter not referred to in paragraphs (1) and (3) of this Regulation shall be subject to a general permit.

(5) In the issue of permits referred to in paragraphs (3) and (4) of this Regulation, the Contracting Parties shall take full account of all applicable provisions of these Regulations and the Technical Guidelines on the Control of Incineration of Waste and Other Matter at Sea for the waste in question.

## PART II

### REGULATION 3

#### Approval and Surveys of the Incineration System

(1) The incineration system for every proposed marine incineration facility shall be subject to the surveys specified below. In accordance with Article VII(1) of the Convention, the Contracting Party which proposes to issue an incineration permit shall ensure that the surveys of the marine incineration facility to be used have been completed and the incineration system complies with the provisions of these Regulations. If the initial survey is carried out under the direction of a Contracting Party a special permit, which specifies the testing requirements, shall be issued by the Party. The results of each survey shall be recorded in a survey report.

- (a) An initial survey shall be carried out in order to ensure that during the incineration of waste and other matter combustion and destruction efficiencies are in excess of 99.9 per cent.
- (b) As a part of the initial survey the State under whose direction the survey is being carried out shall:
  - (i) approve the siting, type and manner of use of temperature measuring devices;
  - (ii) approve the gas sampling system including probe locations, analytical devices, and the manner of recording;
  - (iii) ensure that approved devices have been installed to automatically shut off the feed of waste to the incinerator if the temperature drops below approved minimum temperatures;
  - (iv) ensure that there are no means of disposing of wastes or other matter from the marine incineration facility except by means of the incinerator during normal operations;
  - (v) approve the devices by which feed rates of waste and fuel are controlled and recorded;

- (vi) confirm the performance of the incineration system by testing under intensive stack monitoring, including the measurements of  $O_2$ , CO,  $CO_2$ , halogenated organic content, and total hydrocarbon content using wastes typical of those expected to be incinerated.
- (c) The incineration system shall be surveyed at least every two years to ensure that the incinerator continues to comply with these Regulations. The scope of the biennial survey shall be based upon an evaluation of operating data and maintenance records for the previous two years.
- (2) Following the satisfactory completion of a survey, a form of approval shall be issued by a Contracting Party if the incineration system is found to be in compliance with these Regulations. A copy of the survey report shall be attached to the form of approval. A form of approval issued by a Contracting Party shall be recognized by other Contracting Parties unless there are clear grounds for believing that the incineration system is not in compliance with these Regulations. A copy of each form of approval and survey report shall be submitted to the Organization.
- (3) After any survey has been completed, no significant changes which could affect the performance of the incineration system shall be made without approval of the Contracting Party which has issued the form of approval.

#### REGULATION 4

##### Wastes Requiring Special Studies

- (1) Where a Contracting Party has doubts as to the thermal destructibility of the wastes or other matter proposed for incineration, pilot scale tests shall be undertaken.
- (2) Where a Contracting Party proposes to permit incineration of wastes or other matter over which doubts as to the efficiency of combustion exist, the incineration system shall be subject to the same intensive stack monitoring as required for the initial incineration system survey. Consideration shall be given to the sampling of particulates, taking into account the solid content of the wastes.
- (3) The minimum approved flame temperature shall be that specified in Regulation 5 unless the results of tests on the marine incineration facility demonstrate that the required combustion and destruction efficiency can be achieved at a lower temperature.

(4) The results of special studies referred to in paragraphs (1), (2) and (3) of this Regulation shall be recorded and attached to the survey report. A copy shall be sent to the Organization.

#### REGULATION 5

##### Operational Requirements

(1) The operation of the incineration system shall be controlled so as to ensure that the incineration of wastes or other matter does not take place at a flame temperature less than 1250 degrees centigrade, except as provided for in Regulation 4.

(2) The combustion efficiency shall be at least  $99.95 \pm 0.05\%$  based on:

$$\text{Combustion efficiency} = \frac{C_{\text{CO}_2} - C_{\text{CO}}}{C_{\text{CO}_2}} \times 100$$

where  $C_{\text{CO}_2}$  = concentration of carbon dioxide in the combustion gases

$C_{\text{CO}}$  = concentration of carbon monoxide in the combustion gases.

(3) There shall be no black smoke nor flame extension above the plane of the stack.

(4) The marine incineration facility shall reply promptly to radio calls at all times during the incineration.

#### REGULATION 6

##### Recording Devices and Records

(1) Marine incineration facilities shall utilize recording devices or methods as approved under Regulation 3. As a minimum, the following data shall be recorded during each incineration operation and retained for inspection by the Contracting Party who has issued the permit:

- (a) continuous temperature measurements by approved temperature measuring devices;
- (b) date and time during incineration and record of waste being incinerated;
- (c) vessel position by appropriate navigational means;



- (d) feed rates of waste and fuel - for liquid wastes and fuel the flow rate shall be continuously recorded; the latter requirement does not apply to vessels operating on or before 1 January 1979;
  - (e) CO and CO<sub>2</sub> concentration in combustion gases;
  - (f) vessel's course and speed.
- (2) Approval forms issued, copies of survey reports prepared in accordance with Regulation 3 and copies of incineration permits issued for the wastes or other matter to be incinerated on the facility by a Contracting Party shall be kept at the marine incineration facility.

#### REGULATION 7

##### Control over the Nature of Wastes Incinerated

A permit application for the incineration of wastes or other matter at sea shall include information on the characteristics of wastes or other matter sufficient to comply with the requirements of Regulation 9.

#### REGULATION 8

##### Incineration Sites

- (1) Provisions to be considered in establishing criteria governing the selection of incineration sites shall include, in addition to those listed in Annex III to the Convention, the following:
- (a) the atmospheric dispersal characteristics of the area - including wind speed and direction, atmospheric stability, frequency of inversions and fog, precipitation types and amounts, humidity - in order to determine the potential impact on the surrounding environment of pollutants released from the marine incineration facility, giving particular attention to the possibility of atmospheric transport of pollutants to coastal areas;
  - (b) oceanic dispersal characteristics of the area in order to evaluate the potential impact of plume interaction with the water surface;
  - (c) availability of navigational aids.
- (2) The coordinates of permanently designated incineration zones shall be widely disseminated and communicated to the Organization.

REGULATION 9

Notification

Contracting Parties shall comply with notification procedures adopted by the Parties in consultation.

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ANNEX 4

RESOLUTION OF THE THIRD CONSULTATIVE MEETING  
ON SETTLEMENT OF DISPUTES

Resolution adopted on 12 October 1978

THE THIRD CONSULTATIVE MEETING,

RECALLING Article XI of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter whereby the Contracting Parties undertake to consider procedures for the settlement of disputes concerning the interpretation and application of the Convention,

RECALLING FURTHER that the Second Consultative Meeting agreed to consider proposals at the Third Consultative Meeting to incorporate provisions for the settlement of disputes within the framework of the Convention with a view to the development and possible adoption of such provisions by that Meeting,

NOTING Article X of the Convention whereby the Contracting Parties undertake, in accordance with the principles of international law regarding State responsibility for damage to the environment of other States or to any other area of the environment, caused by dumping of wastes and other matter of all kinds, to develop procedures for the assessment of liability and the settlement of disputes regarding dumping,

BEARING IN MIND the provisions of Article XIII whereby the Contracting Parties affirm that nothing in the Convention shall prejudice the codification and development of the law of the sea by the Third United Nations Conference on the Law of the Sea nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction,

HAVING CONSIDERED the proposed provisions on the settlement of disputes contained in the Report of the Ad Hoc Group of Legal Experts on Dumping,

ADOPTS the following amendments to the Convention in accordance with Articles XIV(4)(a) and XVI(1) thereof:

- (a) amendments to Article XI;
- (b) amendments to Articles XIV(4)(a) and XV(1)(a); and
- (c) addition of an Appendix,

the texts of which are set out in the Attachment to this Resolution,

REQUESTS the Secretary-General of the Inter-Governmental Maritime Consultative Organization to inform the Contracting Parties of the above-mentioned amendments in accordance with Article XV(1)(b) of the Convention,

ALSO REQUESTS the Secretary-General of the Inter-Governmental Maritime Consultative Organization to perform among his other Secretariat duties, functions provided for in the Appendix to the Convention regarding settlement of disputes,

INVITES the Contracting Parties to accept the amendments as soon as possible.

Attachment

AMENDMENTS TO THE CONVENTION ON THE PREVENTION  
OF MARINE POLLUTION BY DUMPING OF WASTES AND  
OTHER MATTER CONCERNING SETTLEMENT OF DISPUTES

Article XI shall be replaced by the following:

Any dispute between two or more Contracting Parties concerning the interpretation or application of this Convention shall, if settlement by negotiation or by other means has not been possible, be submitted by agreement between the parties to the dispute to the International Court of Justice or upon the request of one of them to arbitration. Arbitration procedures, unless the parties to the dispute decide otherwise, shall be in accordance with the rules set out in the Appendix to this Convention.

Article XIV(4)(a) shall be replaced by the following:

"(a) review and adopt amendments to this Convention, its Annexes and Appendix in accordance with Article XV;"

The first sentence of Article XV(1)(a) shall be replaced by the following:

"At meetings of the Contracting Parties called in accordance with Article XIV amendments to this Convention and its Appendix may be adopted by a two-thirds majority of those present."

The Appendix mentioned in the amended Article XI above is set out hereunder:

## APPENDIX

### ARTICLE 1

1. An Arbitral Tribunal (hereinafter referred to as the "Tribunal") shall be established upon the request of a Contracting Party addressed to another Contracting Party in application of Article XI of the Convention. The request for arbitration shall consist of a statement of the case together with any supporting documents.
2. The requesting Party shall inform the Secretary-General of the Organization of:
  - (i) its request for arbitration;
  - (ii) the provisions of the Convention the interpretation or application of which is, in its opinion, the subject of disagreement.
3. The Secretary-General shall transmit this information to all Contracting States.

### ARTICLE 2

1. The Tribunal shall consist of a single arbitrator if so agreed between the parties to the dispute within 30 days from the date of receipt of the request for arbitration.
2. In the case of the death, disability or default of the arbitrator, the parties to a dispute may agree upon a replacement within 30 days of such death, disability or default.

### ARTICLE 3

1. Where the parties to a dispute do not agree upon a Tribunal in accordance with Article 2 of this Appendix, the Tribunal shall consist of three members:
  - (i) one arbitrator nominated by each party to the dispute; and
  - (ii) a third arbitrator who shall be nominated by agreement between the two first named and who shall act as its Chairman.
2. If the Chairman of a Tribunal is not nominated within 30 days of nomination of the second arbitrator, the parties to a dispute shall, upon the request of one party, submit to the Secretary-General of the Organization within a further period of 30 days an agreed list of qualified persons. The Secretary-General shall select the Chairman from such list



as soon as possible. He shall not select a Chairman who is or has been a national of one party to the dispute except with the consent of the other party to the dispute.

3. If one party to a dispute fails to nominate an arbitrator as provided in sub-paragraph (1)(i) of this Article within 60 days from the date of receipt of the request for arbitration, the other party may request the submission to the Secretary-General of the Organization within a period of 30 days of an agreed list of qualified persons. The Secretary-General shall select the Chairman of the Tribunal from such list as soon as possible. The Chairman shall then request the party which has not nominated an arbitrator to do so. If this party does not nominate an arbitrator within 15 days of such request, the Secretary-General shall, upon request of the Chairman, nominate the arbitrator from the agreed list of qualified persons.

4. In the case of the death, disability or default of an arbitrator, the party to the dispute who nominated him shall nominate a replacement within 30 days of such death, disability or default. If the party does not nominate a replacement, the arbitration shall proceed with the remaining arbitrators. In the case of the death, disability or default of the Chairman, a replacement shall be nominated in accordance with the provision of paragraphs 1(ii) and 2 of this Article within 90 days of such death, disability or default.

5. A list of arbitrators shall be maintained by the Secretary-General of the Organization and composed of qualified persons nominated by the Contracting Parties. Each Contracting Party may designate for inclusion in the list four persons who shall not necessarily be its nationals. If the parties to the dispute have failed within the specified time limits to submit to the Secretary-General an agreed list of qualified persons as provided for in paragraphs 2, 3 and 4 of this Article, the Secretary-General shall select from the list maintained by him the arbitrator or arbitrators not yet nominated.

#### ARTICLE 4

The Tribunal may hear and determine counter-claims arising directly out of the subject matter of the dispute.

#### ARTICLE 5

Each party to the dispute shall be responsible for the costs entailed by the preparation of its own case. The remuneration of the members of the Tribunal and of all general expenses incurred by the Arbitration shall be borne equally by the parties to the dispute. The Tribunal shall keep a record of all its expenses and shall furnish a final statement thereof to the parties.

#### ARTICLE 6

Any Contracting Party which has an interest of a legal nature which may be affected by the decision in the case may, after giving written notice to the parties to the dispute which have originally initiated the procedure, intervene in the arbitration procedure with the consent of the Tribunal and at its own expense. Any such intervenor shall have the right to present evidence, briefs and oral argument on the matters giving rise to its intervention, in accordance with procedures established pursuant to Article 7 of this Appendix, but shall have no rights with respect to the composition of the Tribunal.

#### ARTICLE 7

A Tribunal established under the provisions of this Appendix shall decide its own rules of procedure.

#### ARTICLE 8

1. Unless a Tribunal consists of a single arbitrator, decisions of the Tribunal as to its procedure, its place of meeting, and any question related to the dispute laid before it, shall be taken by majority vote of its members. However, the absence or abstention of any member of the Tribunal who was nominated by a party to the dispute shall not constitute an impediment to the Tribunal reaching a decision. In case of equal voting, the vote of the Chairman shall be decisive.

2. The parties to the dispute shall facilitate the work of the Tribunal and in particular shall, in accordance with their legislation and using all means at their disposal:

- (i) provide the Tribunal with all necessary documents and information;
- (ii) enable the Tribunal to enter their territory, to hear witnesses or experts, and to visit the scene.

3. The failure of a party to the dispute to comply with the provisions of paragraph (2) of this Article shall not preclude the Tribunal from reaching a decision and rendering an award.

#### ARTICLE 9

1. The Tribunal shall render its award within five months from the time it is established unless it finds it necessary to extend that time limit for a period not to exceed five months. The award of the Tribunal shall be accompanied by a statement of reasons for the decision. It shall be final and without appeal and shall be communicated to the Secretary-General of the Organization who shall inform the Contracting Parties. The parties to the dispute shall immediately comply with the award.

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ANNEX 5STATEMENTS MADE BY DELEGATIONS ON PROCEDURES  
FOR THE SETTLEMENT OF DISPUTES1. Statement by the delegation of Chile

The Chilean delegation expresses its regret for being unable to accept the Procedures for the Settlement of Disputes and announces that it would recommend its Government to request the special meeting of the Contracting Parties envisaged in Article XIII to consider the question in order to resolve the substantive matters which should be considered prior to any arbitration procedure. Once a definite action on this matter is taken by the Contracting Parties, the Government of Chile may be able to ratify the amendments.

2. Statement by the delegation of Portugal

The delegation of Portugal votes against the adoption of the document but reserves the right to reconsider its position during the next Consultative Meeting of the Contracting Parties.

Furthermore, the delegation states that Portugal will not accept any decision by the Tribunal envisaged in document LDC III/WP.11 if such a decision relates to waters within Portuguese jurisdiction.

The delegation also states that it prefers to await the entry into force of the relevant rules resulting from the United Nations Conference on the Law of the Sea.

3. Statement by the delegation of the USSR

The USSR delegation states that its vote against the amendments at this stage does not predetermine any future Soviet position on the issue.

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ANNEX 6

INTERIM GUIDELINES FOR THE IMPLEMENTATION OF  
PARAGRAPHS 8 AND 9 OF ANNEX I OF  
THE LONDON DUMPING CONVENTION

A. Conditions under which Permits for Dumping of Wastes and  
Other Matter containing Annex I Substances may be issued

1. Under Article IV(a) of the Convention the dumping of waste or other matter containing substances listed in Annex I is prohibited, except that such prohibition does not apply to:

- (a) Annex I substances which are rapidly rendered harmless by physical, chemical or biological processes in the sea (paragraph 8 of Annex I); or
- (b) wastes or other materials, such as sewage sludges and dredged spoils, which contain matters listed in paragraphs 1 - 5 of Annex I as trace contaminants (paragraph 9 of Annex I).

2. A Contracting Party may issue a special or general permit for the dumping of waste containing an Annex I substance provided that the substance is determined to be rapidly rendered harmless or to be present as a trace contaminant and that the requirements of Annex II and Annex III have been met.

3. It is recognized that for many of these wastes practical alternative methods of treatment, disposal or elimination or of treatment to render the matter less harmful for dumping at sea might be available on land and these alternative methods should be pursued as required by the Convention.

B. Evaluation of "Trace Contaminants" and "Rapidly Rendered Harmless"

4. In the context of paragraph 1(a), Annex I substances may be regarded as meeting the requirements of Annex I, paragraph 8, if tests of the waste or other matter proposed for dumping, including tests on the persistence of the material, show that the substances can be dumped so as not to cause acute or chronic toxic effects or bioaccumulation in sensitive marine organisms typical of the marine ecosystem at the disposal site. A persistent substance should not be regarded as harmless except when present as a trace contaminant.

5. In the context of paragraph 1(b), Annex I substances listed in paragraphs 1, 2, 3 and 5 of Annex I shall not be regarded as "trace contaminants" under the following three conditions:

- (a) if they are present in otherwise acceptable wastes or other materials to which they have been added for the purpose of being dumped;
- (b) if they occur in such amounts that the dumping of the wastes or other materials could cause undesirable effects, especially the possibility of chronic or acute toxic effects on marine organisms or human health whether or not arising from their bioaccumulation in marine organisms and especially in food species; and
- (c) if they are present in such amounts that it is practical to reduce their concentrations further by technical means.

6. The procedures and tests described in the following sections are considered to apply equally to the interpretation of "harmlessness" (paragraph 8 of Annex I) and "trace contaminants" (paragraph 9 of Annex I).

C. Test procedures to be employed

7. Test procedures should be designed and run so as to provide evidence of the potential for acute or chronic toxic effects, the persistence of the material (where appropriate), inhibition of life processes, and bioaccumulation under the proposed disposal conditions.

8. For dredged spoils and sewage sludge the test procedures may not be needed if chemical characterization of the material and knowledge of the receiving area allows an assessment of the environmental impact.

9. The test procedures used should be:

- (i) those described in Appendix I and, when appropriate,
- (ii) those procedures acceptable to neighbouring States (in appropriate cases through a regional convention) which may be affected by the proposed disposal, including tests and effects on animals from the affected zone.

The Organization should be notified of the test procedures to be adopted by a Contracting Party.



D. Procedures for Consultation

10. When acceptable test procedures referred to in Section C are used and the results of tests show that the material is not persistent and would appear not to cause acute or chronic toxic effects or bioaccumulation in sensitive marine organisms typical of the marine ecosystem at the disposal site and especially in food species, and on human health, consultation with other Contracting Parties is not required. If such a permit is issued for other than sewage sludge or dredged material, notifiable particulars of the permit and the information required in Appendix II should be submitted immediately to the Organization for circulation to other Parties as information.
11. If the Contracting Party has doubts about the results of the tests referred to in paragraph 7 above, the Contracting Party should consult with the Organization, other Parties and international organizations as appropriate, as provided for under Article XIV, before issuance of the permit.
12. The Contracting Party intending to pursue the above consultation should submit to the Organization sufficient information to assist in determining whether the substances may be rapidly rendered harmless or are present in trace contaminants, including the information required in Appendix II.
13. The Organization, upon being informed by a Party that consultation is necessary, may:
  - (a) convene a Special Meeting of Contracting Parties in accordance with Article XIV(3)(a) of the Convention to consider the problems; or
  - (b) establish a Panel of Contracting Parties which could be convened or consulted by the Secretariat at short notice.
14. The Organization should, after consultation with other organizations, experts and Parties, make recommendations as to whether or not the waste in question may be dumped and, if so, on appropriate procedures which should be adopted by the Party prior to disposal.
15. The Contracting Party should inform the Secretariat of the actions taken following the recommendations of the Organization and, if a permit is issued, should notify the permit details to the Organization as well as any other information listed in Appendix II and not already notified under paragraph 12. The Organization shall circulate this information to other Parties.

16. Annual reports on dumping prepared by the Secretariat for circulation to the Contracting Parties should include a summary of permits for dumping of Annex I substances which have been issued in accordance with the consultation procedures of these Guidelines.

17. If a Contracting Party to the London Dumping Convention which is also a Party to a regional convention and has followed a consultative procedure under a regional convention, such procedure may be substituted for the procedures set out in paragraphs 11 - 16 above. The Secretariat of the regional convention should inform the Organization of the result of the consultation which has taken place.

## APPENDIX I

### TEST PROCEDURES FOR THE INTERPRETATION OF "TRACE CONTAMINANTS" AND "HARMLESSNESS" IN REGARD TO ANNEX I, PARAGRAPHS 8 AND 9

#### I. GENERAL PROVISIONS

1. Each Contracting Party may develop and use individually or through a regional convention procedures as laid down in Section C of the Guidelines for the implementation of paragraphs 8 and 9 of Annex I to the London Dumping Convention.
2. Such test procedures may include, as appropriate, chemical characterization of the material, bioassays of the material, application of emission standards or environmental quality criteria in use by the Contracting Party, scientific literature or the results of field surveys of the proposed disposal site or a similar marine environment. For the initial evaluation of an industrial waste containing Annex I substances, the tests of paragraph 4 of this Appendix shall be used. Some of the tests may be augmented by new scientific developments, e.g. predictions from structure/activity relationships and environmental models.
3. Each Contracting Party should notify the Organization of the test procedures adopted and, upon request, should provide to the Organization or other Contracting Parties copies of those specific test procedures.

#### II. SPECIFIC CONSIDERATIONS

##### A. Test Procedures

4. Test procedures should include the following:
  - (a) acute toxicity tests on plankton, crustaceans or molluscs, and fish;
  - (b) chronic toxicity tests capable of evaluating long-term sublethal effects, such as bioassays covering an entire life cycle;
  - (c) tests to determine the potential for bioaccumulation of substances listed in Annex I and, if appropriate, the potential of elimination. The test organisms should be those most likely to bioaccumulate Annex I substances; and
  - (d) tests for determining the persistence of Annex I substances. Potential for degradability of Annex I substances should be determined using bacteria and water typical of the proposed dumping site. The tests should reflect the conditions at the dumping site.

##### B. Dilution and Dispersion of the Dumped Material

5. In applying the results of tests to predict the environmental impact of the proposed disposal, the method of disposal and the dilution of the waste

that would result after dumping should be considered. The rate of dilution and dispersion actually occurring after dumping will depend on many factors, but will often include an initial period of rapid mixing and reduction of concentration of the dumped material followed by a period in which concentrations of the dumped material decrease at a much lower rate. In such cases the allowance for initial mixing should be based on the rate and time of the initial period of rapid mixing.

C. Chemical Characterization of the Dumped Material

6. Chemical characterization of wastes is required by Annex III. Chemical analysis of the liquid and solid phases of the wastes may be used to evaluate the potential for biological effects and persistence of Annex I substances in the dumped materials, where sufficient experience has been gained for the type of waste involved through test procedures or field surveys described in the relevant sections of this Appendix.

D. Application of the Results of Field Surveys

7. Data collected from field surveys of disposal sites may provide a direct measurement of the impact of Annex I substances on the marine environment.

8. Field survey data may be used as part of acceptable test procedures (see paragraph 2) when the following conditions are met:

- (a) The disposal site from which the data were collected is the same as that to be used for the proposed dumping, or is similar in environmental characteristics to the proposed disposal site;
- (b) The disposal site from which the data were collected has had wastes containing Annex I substances dumped there recently enough to cause impacts of the type listed in paragraph 1 of these Guidelines; and
- (c) The data collected are adequate to make a determination in regard to the impacts listed in paragraph 1 of these Guidelines.

## APPENDIX II

### BASIC INFORMATION TO BE PROVIDED FOR THE IMPLEMENTATION OF PARAGRAPHS 8 AND 9 OF ANNEX I OF THE LONDON DUMPING CONVENTION

#### INTRODUCTION

1. The purpose of the following procedures is to give guidance on the appraisal of such wastes for which dumping has to be considered and the presentation of the evidence in support of the proposal to dump. The test procedures advocated can only produce scientific evidence on which to base a decision. They are to some extent still experimental and experience is necessary as regards their practical application and the interpretation of the results. They cannot give conclusive proof that a substance is biologically harmless, especially in the longer term. Scientifically such proof is impossible, the tests can only provide evidence for judging whether the environmental risk is acceptable or not.

#### REQUIRED INFORMATION

2. The following paragraphs draw attention to the more important aspects of the appraisal and set out the headings under which information is required:

##### Alternative disposal options

2.1 Itemize all of the alternative methods which have been considered and rejected, e.g. treatment, storage, destruction or disposal on land. Give the reasons for the rejection in each case.

##### Origin of waste

2.2 Give a description of the process from which the waste is derived to indicate the possible nature of the waste. It is not necessary to set out the process in detail.

##### Amount of waste

2.3 Give:

- (a) the total amount of waste expected to arise annually;
- (b) the frequency of dumping; and
- (c) the amount to be dumped on each occasion.

##### Form in which the waste is presented for dumping

2.4 State the form of the waste, quantify the maximum amount of solids present and give information on particle sizes.

Chemical composition

2.5 Give the chemical identification of compounds present in the liquid and solid phases and the quantification of these compounds. Specify the analytical methods used, including information on detection limits, precision and accuracy, as appropriate.

Physico/chemical characteristics

2.6 Give pH and other physico/chemical characteristics of the waste, e.g. specific gravity, volatility, solubility, and of its specific compounds.

Results of test procedures

2.7 Results of tests performed in accordance with Appendix I should be reported.

Other relevant information and data

2.8 Give any other relevant information, e.g. possibility of tainting; other sources of pollutants in the disposal area and all other information required by Annex III of the Convention.

Characteristics of proposed disposal area

2.9 Give the geographical limits of the proposed dumping area using co-ordinates. Give the depth and dynamics of the area, the characteristics of the sediments, etc. and any other information relevant to the selection of the area proposed for dumping, e.g. absence of spawning grounds, nursery areas, fishery activities, migratory routes, etc.

Overall assessment of the information

2.10 In this section bring together all the information gathered and set out the reasons why it is considered that a permit should be given.

Details of proposed dumping operation and proposed subsequent action

2.11 Give the conditions which will be imposed on the dumping operation, e.g. duration of licence, frequency of dumping, method of discharge, speed of vessel, whether or not containerized, supervision, etc. Finally give information on proposed post operational monitoring which will be carried out.



ANNEX 7

PROCEDURES FOR THE CONSIDERATION OF PROPOSALS  
REGARDING INTERPRETATION OR AMENDMENT OF  
ANNEXES TO THE LONDON DUMPING CONVENTION

1. With reference to Article XIV(4) of the London Dumping Convention, it was recognized that proposals for amendments to the Annexes will be made by one or more of the Contracting Parties in the light of further experience gained with the Convention and of scientific and technical developments.
2. Such proposals should be reviewed by the Ad Hoc Scientific Group and recommendations for action by the Contracting Parties should be presented at Consultative Meetings.
3. In order that all proposals may be given full consideration in a timely fashion, the following procedures are suggested:
  - (a) proposals should be submitted to Consultative Meetings, along with supporting documentation;
  - (b) during the intersessional period, the Ad Hoc Scientific Group will review proposals referred to it by the Consultative Meeting;
  - (c) intersessional meetings of the Ad Hoc Scientific Group, when held at all, should be convened at such a time that there would be ample time before and after the meetings for review by the Contracting Parties of the proposals and the recommendations prepared by the Ad Hoc Scientific Group; and
  - (d) the Ad Hoc Scientific Group may, at its discretion, consider proposals presented during the intersessional period and make recommendations concerning them to the Consultative Meeting.

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ANNEX 8

SUMMARY OF THE STATEMENT BY THE IAEA OBSERVER ON THE  
REVISED DEFINITION AND RECOMMENDATIONS CONCERNING  
DUMPING OF RADIOACTIVE WASTES AND OTHER MATTER

Introductory Statement

1. The observer from IAEA stated that in providing the Third Consultative Meeting with the Revised Definition and Recommendations, the IAEA had completed the revision process within the expected time frame. This was the result of a three-year process of careful and elaborate review and revision, undertaken with the assistance of several consultants' meetings and advisory groups. The revised document, on the whole, took into account the concerns and comments expressed by the Contracting Parties at the First and Second Consultative Meetings. New oceanographic and radiological models were used for postulating different pathways by which the dumped radioactivity could return to man from the deep ocean and for assessing radiation doses to man and possible damage to the ecosystem.
2. On the basis of the recommendations of the oceanographic and radiological groups, an Advisory Group convened in February 1978 reached consensus on a revised Definition established on a simplified grouping of radionuclides. A calculated upper release rate limit for each group was divided by an assumed upper limit to an assumed annual mass dumping rate at any single dumping site to give the concentration of radioactive material unsuitable for dumping at sea. The revised activity concentrations thus obtained are more restrictive. Further, it was agreed that the activity concentrations could be averaged over a gross mass not exceeding 1,000 tonnes. Expressing the Definition as an activity per unit gross mass averaged over a small fraction of the assumed annual dumping rate should result in keeping the total activity dumped annually below the calculated annual release rate limits. The assumed annual dumping rate at any site, however, should not be interpreted as implying that such a rate will be reached or as encouraging such a rate. Furthermore, the Definition must not be taken to imply that material falling outside the Definition would be thereby suitable for dumping.
3. In the revised Recommendations, strong emphasis is placed on compliance with the most recent applicable recommendations of the International Commission on Radiological Protection (ICRP). The ICRP dose limits should be considered as constraints for optimization procedures, which usually would result in radiation doses much lower than the dose limits, i.e. as low as is reasonably achievable. Other essential features consist of:

- (a) a policy of continued isolation and containment of radioactive waste from the environment;
- (b) prohibition of the dumping of unpackaged liquid waste into the deep ocean;
- (c) the dumping of unpackaged solid waste may be authorized only in such forms that would reach the ocean bed intact;
- (d) new criteria for site selection, including restrictions on dumping sites; and
- (e) clarification of the status and responsibilities of the escorting officer.

4. Information and data of an advisory nature are provided in an Annex which should be of help for understanding the safety philosophy and considerations that had led to the formulation of the revised document. A footnote to the revised Definition, setting out the basis on which it had been established, has been inserted below the Definition in view of the importance of the information it provides; the footnote, however, has no legal effect whatsoever.

5. In submitting the Revised Definition and Recommendations to the IAEA Board of Governors, the Director General of the IAEA stated that the revised document provides, for the time being, an improved basis for meeting the requirements of the London Dumping Convention with respect to the dumping of radioactive waste and other radioactive matter. He also undertook to keep the Revised Definition and Recommendations under continuing review so as to have them further improved and updated, as and when appropriate, in the light of technological developments and increased scientific knowledge. On this basis, the Board of Governors, on 9 June 1978, authorized him to provide the Third Consultative Meeting with the Revised Definition and Recommendations "for the purpose of implementing the Convention" and, also, with the comments made by Members of the Board in that connexion (LDC III/INF.3).

6. The observer from IAEA further informed the Consultative Meeting that both the oceanographic and radiological groups, as well as the Advisory Group of February 1978, concurred in the opinion that on a purely oceanographic and radiological basis, only the release rates are important and not the concentration or specific activity of the radionuclides in the

material dumped. Consequently, in their view, the total quantities of radionuclides dumped per unit time should be strictly controlled on the basis of release rate limits. The Advisory Group therefore suggested that the Contracting Parties might wish to reconsider the working of paragraph 6 of Annex I to the Convention, which implies a concentration rather than a total release concept. It was recognized, however, that such an approach would require the establishment of a system of notification and prior consultation, a number of administrative measures and increased duties in the administration of the Convention and, first of all, an amendment to Annex I, paragraph 6, in accordance with Article XV.2 of the Convention and Rule 15(c) of the Rules of Procedure for Consultative Meetings of the Contracting Parties. The IAEA is of the opinion that should such a change in the conceptual basis be contemplated for Annex I, paragraph 6, it should also be considered for other materials covered by the Convention.

7. The Revised Definition and Recommendations should not be construed as encouraging in any way the dumping at sea of radioactive waste and other radioactive matter. Moreover, the discretion to adopt more stringent requirements remains vested in the Contracting Parties pursuant to Articles IV.3 and VI.3 of the Convention. In the light of such considerations and on the understanding that the Revised Definition and Recommendations will be subject to continuing review by the IAEA, the observer from IAEA suggested that the Consultative Meeting:

- (a) take note of the Revised Definition and Recommendations and of the comments made thereon by the IAEA Board of Governors; and
- (b) request the Secretary-General to circulate the Revised Definition and Recommendations to the Contracting Parties and Signatories for the purpose of implementing the Convention, together with the comments made in this connexion at the Meeting, which the IAEA will take into account in a further revision of the Definition and Recommendations, as and when appropriate.

IAEA reply to the Federal Republic of Germany

The IAEA Advisory Group of February 1978 specifically addressed the question of using a dose-limit of 500 mrem/a as opposed to 100 mrem/a in their review of the conservatism inherent in the assessment of release rate limits.

The following paragraph is quoted from their report which appears as Annex II in the IAEA Technical Report - 211 (1978):

"The annual limit for the effective dose equivalent in individual members of the public, recommended by the ICRP, applies to the average of this quantity in the "critical group", namely the group representing the most exposed individuals. If the critical groups are hypothetical and maximizing assumptions are made in their selection, the ICRP maintains the value of 500 mrem for the annual limit. On the other hand, if real critical groups are identified and realistic models are used to assess the annual effective dose equivalent, the ICRP recommends a limit of 100 mrem in a year for exposures of continuous nature repeated year after year.

The models used to establish derived limits for release by dumping are clearly of a hypothetical maximizing type and, therefore, the limit of 500 mrem in a year is applicable."

The numbers given in the Revised Definition are levels of radioactivity that may not be dumped. The levels that may be dumped are to be determined by the national authority who issues a special permit in accordance with Section B of the Revised Definition and Recommendations. If a real critical group which will continually be exposed is identified, it would be in accordance with ICRP recommendations for the national authority to base their calculation of what may be released on a dose limit of 100 mrem/a and to keep the dose commitment as low as reasonably achievable.

IAEA reply to the USSR

With regard to the replacement in the definition of the averaging mass of 100 tonnes by a mass of 1,000 tonnes, the oceanographic and radiological basis of the Revised Definition and Recommendations as described in IAEA Technical Reports 210 and 211 results in a release rate of radioactivity (Ci/a) which should not be exceeded in the oceans.

In order to conform to the language of the London Dumping Convention which requires a level or concentration of radioactivity unsuitable for dumping, the release rate (ci/a) was decided by an assumed upper mass dumping limit of 100,000 tonnes/a to give a concentration unsuitable for dumping (Ci/tonnes).

It is obvious from this basis that it is the total activity released into the ocean and not the concentration which is the determining factor in preventing unacceptable radiation doses resulting from the dumping of radioactivity in the ocean.

The averaging mass is thus of little consequence and 1,000 tonnes were substituted for the 100 tonnes of the Provisional Definition as it was considered to be a more convenient mass with which to operate.

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ANNEX 9

COMMENTS AND STATEMENTS ON THE IAEA REVISED DEFINITION  
AND RECOMMENDATIONS MADE BY DELEGATIONS AT  
THE THIRD CONSULTATIVE MEETING

SUMMARY OF COMMENTS ON THE REVISION OF THE DEFINITION  
AND RECOMMENDATIONS MADE BY THE MEMBERS OF THE  
IAEA BOARD OF GOVERNORS AT ITS 521ST MEETING

1. Comments by the delegation of Canada

The Canadian delegation proposed that, in addition to the work programme suggested by the delegate of the United States, the IAEA be requested to work towards an inventory of radioactive waste input to the sea so that an estimate of the capacity of the marine environment to accept radioactive waste from all sources can be developed.

The delegation was not in favour of an alteration to paragraph 6 of Annex I of the London Convention at this time, but supported the adoption of the Revised Definition and Recommendations presented by the IAEA. In connexion with the footnote to the definition appearing on page 3 of INFCIRC/205/Add.1/Rev.1, in the light of the explanation by the representative of the IAEA on the non-mandatory nature of this explanation, there would appear to be no valid reason for not incorporating the footnote with the remaining explanatory material forming the basis of the definition located in paragraph 2.3 of the Annex.

2. Statement by the delegation of the Federal Republic of Germany

The delegation of the Federal Republic of Germany reaffirms its Reservation concerning the acceptance of the Revised Definition and Recommendations which was stated at the meeting of the IAEA Board of Governors (9 June 1978) and the wording of which is attached as Annex to LDC III/INF.3. The Reservation relates not only to the permissible dose commitment for which a revision should be provided for at the earliest possible moment but also takes into consideration the fact that upper limits of the rate of radioactivity release had been set without satisfactory reference to the international radiation protection principle to the effect that the dose commitment should be maintained as low as reasonably achievable.

3. Statement by the delegation of Portugal

The delegation of Portugal was not in favour of an alteration to paragraph 6 of Annex I of the London Convention at this time but supported the adoption of the revised Definition and Recommendations presented by the IAEA. In connexion with the footnote, the Portuguese delegation supported the United States delegation that in the light of the explanation given by the representative of the IAEA on the non-mandatory nature of this explanation, there would appear to be no valid reason for not incorporating the footnote that appears on page 3 of document INFCIRC/205/Add.1/Rev.1 with the remaining explanatory material forming the basis of the definition located in paragraph 2.3 of the Annex.

Nevertheless, the delegation considers that the fact that we have a new definition prepared by IAEA cannot be a reason to permit this kind of dumping to go on. On the other hand, the delegation thinks that the proliferation of dumping sites should be avoided and the number of sites used now should decrease progressively. The delegation sincerely hopes that no more dumping of radioactive wastes will take place in the near future.

The delegation also considers that the definition adopted now must be revised with the view to it being updated and that more importance should be given to oceanographic studies, namely current characteristics at surface and bottom in the selected dumping sites, including its spectral analyses.

The delegation is also of the opinion that the definition presented in document INFCIRC/205/Add.1/Rev.1 should be applied together with the mechanism proposed by OECD in document LDC III/6/1.

4. Comments by the delegation of the USSR

The USSR delegation takes note of the considerable work carried out by IAEA concerning revision of Definition and Recommendations. Nevertheless we have some proposals and considerations on this subject.

(1) The IAEA report stipulates that in producing this document, the Agency aimed to work out more stringent requirements concerning dumping of radioactive wastes. This intention is fully in line with the point of view of the USSR delegation. However, paragraph A.1.1 of the document says that radioactivity should be averaged over a gross mass of waste not exceeding 1000 tons. Yet in the preceding document this definition covered a gross

mass not exceeding 100 gross tonnage of waste. We think that this change in figure requires a more substantial explanation than the one given in paragraph 2.3.12 of the Annex to the document.

(2) We also believe that it is necessary to elaborate further criteria for the selection of dumping sites taking into consideration oceanographic and other factors.

(3) The document contains no information about the mathematical model which could be recommended for the monitoring and assessment of the level of marine pollution caused by dumping of radioactive wastes. It would be desirable to have such a reference in a footnote (in the Annex). At the same time, monitoring of the radioactive pollution should not be limited only to the use of mathematical models and requires evidently a special programme or other specific recommendations to be elaborated.

5. Comments by the delegation of the United Kingdom

(1) The United Kingdom thanks the IAEA and the groups of experts and consultants for the effort they have put into preparing a Revised Definition.

(2) The United Kingdom welcomes the introductory remarks of the IAEA observer, and notes particularly that the Revised Definition is built upon a sounder scientific basis than the Provisional Definition. Also noted is the fact that the entire approach adopted in the assessment is inherently more restrictive than that used as a basis for the Provisional Definition. It should however be recognized that there are probably several orders of magnitude of conservatism built into the Revised Definition.

(3) The United Kingdom points out that the document which the Consultative Meeting is being asked to consider is an IAEA document containing the recommendations of the IAEA whom the London Dumping Convention recognizes as the competent international body in this field. It is not within the competence of the Consultative Meeting to amend any part of the document prepared by IAEA, whether to the Definition and Recommendations or to the Annex.

(4) The United Kingdom therefore supports the request to the Secretary-General to circulate the document unamended to Contracting Parties and Signatories for the purpose of implementation of the Convention.

(5) LDC III/6 sets out the difficulties which faced the IAEA in recommending a Revised Definition. The radiological and oceanographic consultants who advised the IAEA concluded that the radiological hazards to man and the ecosystem were largely determined by the amount of radioactivity released to the oceans. They also concluded that there were no wastes which were intrinsically unsuitable for dumping. However, the IAEA felt that the concept of the limiting capacity of the deep oceans to receive radioactive waste could not be accommodated within the implied terms of paragraph 6 of Annex I of the Convention. Therefore the IAEA felt bound to make calculations using an arbitrary assumption which had no scientific basis or justification so as to enable them to recommend a Definition within the implied terms of paragraph 6. The Annex to the IAEA's Recommendations confirms the arbitrary nature of the calculation and recognizes that the radiological hazards would not be materially altered if the figures were to be revised upward (or downward) provided the limits for the rates of release were observed.

(6) The Contracting Parties are thus faced with implementing a Revised Definition in which the final step in arriving at it is irrational and has no scientific validity. It is obviously necessary that the Convention should be implemented using a Definition which is seen to be scientifically valid and justifiable. The United Kingdom therefore proposes that in accordance with Article XIV(4) of the Convention the Consultative Meeting invites the IAEA specifically to advise formally on a scientifically valid basis for the control of dumping of radioactive waste. If the advice of the IAEA were then to suggest that such a basis would not fall within the present terms of the Convention, the Contracting Parties would at that time wish to consider appropriate amendments to the Convention.

(7) On the question of IMCO's providing international observation of sea dumping operations, the United Kingdom of course recognizes and operates within the mechanism of surveillance already provided by the OECD. So long as all other States which dump radioactive material operate within the existing OECD framework, and the mechanism itself is made to operate satisfactorily, it is difficult to see the justification for proposing an additional observation system. There would also appear to be no justification why, within the terms of the London Dumping Convention, radioactive waste should be treated any differently from the other substances listed in the Annexes to the Convention. The United Kingdom therefore considers that there is not sufficient evidence to justify any change from the present surveillance arrangements.

6. Statement by the delegation of the United States

The United States requests that the following information be transmitted to the IAEA in order to allow the IAEA to improve the Revised Definition and Recommendations giving full consideration to all the comments received at this Third Consultative Meeting.

Comments

The United States commends the IAEA for its considerable progress since the submission of the Provisional Definition and Recommendations and endorses the Revised IAEA Definition and Recommendations (IAEA INFCIRC/205/Add.1/Rev.1) as representing a substantial improvement.

Outline of tasks for further improving the Definition and Recommendations

The United States wishes to further encourage the IAEA to give immediate priority consideration to those remaining commitments outlined in its work programme resulting from the First Consultative Meeting (LDC I/16, paragraph 49), with specific attention to the following:

- (1) development of a qualitative as well as quantitative Definition (Item (a) of LDC I/16, paragraph 49);
- (2) further review of the oceanographic model and assumptions (Item (c) of LDC I/16, paragraph 49);
- (3) a numerical definition of de minimis quantities (LDC I/16, paragraph 49, item (f)).

If fulfilling the above commitments the United States suggests that the IAEA develop an appropriate schedule of review and revision to complete this work programme at an early date as suggested by the IAEA in its covering memorandum to INFCIRC/205/Add.1/Rev.1 (Item 2(b)(ii)).

The United States requests that the following additional Work Programme as presented by the United States at the Third Consultative Meeting be considered by the IAEA as a supplement to their commitments outlined in LDC I/16, paragraph 49:

- (1) Consideration of the technical and operational justification for raising the average gross mass from 100 to 1000 tonnes.



- (2) Detailed consideration of an administrative (compliance) mechanism as well as a technical performance evaluation programme for waste isolation and packaging to support any release rate limit concept.
- (3) Development of improved risk estimation procedures including more specific recommendations regarding environmental monitoring, and elaboration on food chain pathways in and from the deep sea.
- (4) In addition to the impact of radioactivity releases on man, further consideration of radioactivity releases to include the methods for assessment of localized impact on sensitive elements of the marine environment (including bioassay procedures for sublethal effects) as well as the need to further reduce these release rates to more adequately fulfil the intent of Articles I and II of the Convention to prevent marine pollution.
- (5) Establishment of a global limit on the number of disposal sites.
- (6) Desirability of removing the footnote to the Definition in Section A.1.1 of the IAEA Revised Definition and Recommendations and placing it in the Annex (Section 2.3) where the remaining explanatory material for the basis of the Definition is located. It is the United States delegation's opinion that placement of explanatory material outside of the Annex to the Definition and Recommendations is misleading and implies, as acceptable, release rates up to the activities of alpha, beta, and gamma emitters specified in the footnote, an implication totally unacceptable to the United States.

Having taken note of the views expressed in the IAEA Advisory Group as mentioned in paragraph 7 of LDC III/6 the United States continues to oppose any change in the wording of paragraph 6 of Annex I to the London Convention at this time. The United States feels strongly that the present prohibition on the disposal of all high-level radioactive waste must be maintained.

With respect to the IAEA Definition developed pursuant to Annex I, Section 6 of the Convention, the United States has strong reservations to the use of release rate limits as the basis of the Definition in the absence of demonstrated containment systems that control release rates in a quantifiable manner. Until the time that such containment systems are developed, the Definition should be based on dumping rate limits and the initial specific activity of the wastes.



As a point of information, we wish to further point out that in order to feasibly carry out any sea disposal based on release rates a programme would have to be carefully developed which would require, as a minimum, uniform packaging designs developed for various clauses and types of waste and tested both under simulated conditions and in situ to establish acceptable standards of resistance to pressure, corrosion, and leaching at depths in excess of 4,000 metres.

The United States delegation strongly endorses the IAEA opinion as expressed in LDC III/6, paragraphs 10 and 12(d), that is:

The information submitted to the Secretariat pursuant to Article VI.4 of the Convention should include an environmental assessment report to include those factors set out in Section 1.4 of the IAEA Recommendations; and the Interim Notification Procedures adopted at the First Consultative Meeting should add this notification requirement of an environmental assessment report.

The United States would support, pending mutual satisfactory discussion between the IMCO Secretariat and the OECD Nuclear Energy Agency secretariat, the establishment of a mechanism whereby IMCO could provide international observation of the loading and sea disposal of radioactive wastes.

The United States notes that the IAEA has already indicated the desirability of such general initiatives in Section 2.10.2 of the Annex to the Definition and Recommendations for sea disposal carried out under the London Convention.

7. Summary of the Comments made by Members of the IAEA Board of Governors at the five hundred and twenty-first meeting held at the IAEA Headquarters, Vienna, on Friday, 9 June 1978

(1) Mr. GOLDSCHMIDT (France): His delegation endorsed the document in which due account was taken of the conclusion of the last Advisory Group convened in February 1978. It was to be hoped that no further revision of the Revised Definition and Recommendations would be undertaken before a lapse of three to four years, in view of the difficulties inherent in the establishment of such a group.

(2) Mr. HOFFMANN (Federal Republic of Germany): The draft of the Revised Definition and Recommendations was based on the assumption that the cumulative effect of the dose resulting from dumping in the sea for the sea-board

population would not exceed 500 millirems per year. That dose corresponded to a recommendation of the International Commission on Radiological Protection (ICRP). But Recommendation No.26 of ICRP also specified that the acceptable dose should not exceed 100 millirems, particularly in the case of continuing radiation. In conformity with the international trend in that field, the authorities of the Federal Republic of Germany had already taken the necessary steps at the national level to limit the annual acceptable dose to 30 millirems.

(3) Taking that situation into account, the Federal Republic of Germany would be unable to accept the Revised Definition and Recommendations without entering firm reservations<sup>\*/</sup> which related not only to the permissible dose commitment but also took into consideration the fact that the upper limits of the rate of radioactivity release had been set without satisfactory reference to the international radiation protection principle to the effect that the dose commitment should be maintained "as low as reasonably achievable".

(4) The authorities in the Federal Republic of Germany were engaged in drafting specific observations on the proposed Revised Definition and Recommendations and at the present stage would like the Board to indicate whether it, too, considered that the 500 millirems per year base retained in the Definition should be immediately reviewed to take account of the international development expressed in Recommendation No.26 of ICRP, as well as of the general principle applicable in all branches of radiation protection according to which the upper limits of the rate of radioactivity release should be kept "as low as reasonably achievable". It would then be advisable to convene a group of experts to meet in the immediate future, prior to communicating the Revised Definition and Recommendations to the Inter-Governmental Maritime Consultative Organization (IMCO).

(5) Mr. EFFAT (Egypt): The Revised Definition and Recommendations would better meet the requirements of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Dumping Convention). The new text was more restrictive than the previous one in that, for example, it contained a ban on the dumping of unpackaged wastes. His delegation was

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<sup>\*/</sup> The text of the reservation by the Federal Republic of Germany is set out in the Appendix to this document.

glad to note that the Revised Definition and Recommendations were to be subject to review and revision to take account of technical advances and greater scientific knowledge; it endorsed the recommendations of the Director General to the Board <sup>\*/</sup>, providing in particular that the Revised Definition and Recommendations should be transmitted to IMCO for submission by it to the Third Consultative Meeting of the Contracting Parties to the Convention, to be held in London in October 1978.

(6) Mr HERZIG (United Kingdom): His delegation could approve the recommendations of the Director General. The new text was the result of two years' work and, although open to improvement, rested on a sounder scientific basis than the previous one. His delegation, too, was glad that the Revised Definition and Recommendations were to be reviewed and revised so as to take account of technical and scientific progress, and it shared the opinion expressed by the Governor from France that the Definition should not be modified before a reasonable period of time had elapsed.

(7) The comments made by the Governor from the Federal Republic of Germany were specially worthy of note and the United Kingdom delegation considered that the amendments proposed should be taken into consideration within the framework of the review and revision provided for in the recommendations of the Director General.

(8) In view of the particular interest of the information given in footnote 1 to the Definition, the United Kingdom delegation would prefer that information to be incorporated in the text itself of paragraph A.1. Lastly, it asked that the content of paragraph 8 of the Director General's

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<sup>\*/</sup> These recommendations as approved by the Board of Governors are to be found in the authorization given by it to the Director General of the IAEA and which has been reproduced in document INFCIRC/205/Add.1/Rev.1, paragraph 2 of the cover page.

memorandum to the Board <sup>\*/</sup> should be brought particularly to the attention of the Third Consultative Meeting of the Contracting Parties which would have before it the text of the Revised Definition and Recommendations.

(9) Mr. MISHARIN (Union of Soviet Socialist Republics): He unreservedly endorsed the IAEA activities within the framework of the London Dumping Convention. It was highly desirable that a limit should be placed on the number of dumping sites. He was in favour of the measures recommended by the Director General but took the view that it would be advisable to revise the Definition in the light of technical advances recorded.

(10) Mr. KIRK (United States of America): He endorsed the Revised Definition and Recommendations, as also the intention to subject that text to review and revision in line with technical and scientific advances. He would, however, like to draw attention to the following two points. The footnote to the Definition, where it was indicated that the Definition was based on limits to activity release rates, might be misleading. Indeed, so long as effective containment systems had not been evolved, no real distinction could be made

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<sup>\*/</sup> The paragraph in question reads as follows:

"The Advisory Group convened last February stressed the desirability of calling the attention of the Contracting Parties to the London Dumping Convention to the consideration that on a purely oceanographic and radiological basis only the release rates and not the concentration (specific activity) of the radionuclides in the material dumped are important. The Advisory Group therefore suggested that the Contracting Parties might wish to reconsider the wording of paragraph 6 of Annex I to the Convention, which implies a concentration rather than a total release concept. It recognized, however, that this approach would require the establishment of notification and prior consultation procedures, a number of administrative measures and increased duties in the administration of the Convention but it recommended that consideration be given to providing the Definition with a conceptual basis which appears more rational from a scientific point of view. This is a matter which falls within the purview of Consultative Meetings of the Contracting Parties to the Convention, whose responsibilities are to keep under continuing review the implementation of the Convention and, inter alia, to consider and adopt amendments to the Convention and its Annexes. The Director General therefore intends to have the matter brought before the Third Consultative Meeting of the Contracting Parties next October for their consideration."

between the release rate and the dumping rate. His delegation would therefore have preferred to have the information on release rates given in the footnote to Section A.1 of the Definition incorporated instead in the background information in Section 2.3 of the Annex. Moreover, there was absolutely no justification in his opinion for raising the average gross mass from 100 to 1000 tonnes. That entailed a risk of weakening the Definition.

(11) Mr. ARAI (Japan): He was in a position to accept the Revised Definition and Recommendations, except for paragraph C.5.1.1, where he proposed to delete the words "representing the national authorities granting the dumping permits". It was the prerogative of each country to decide whether the escorting officers would represent the national authorities or some other organization.

(12) Mr. CUMES (Australia) took the view that, if the disposal of radioactive waste in the oceans was undertaken, it should only be done if it could be shown that there was a net benefit and that any environmental risk was acceptable. The disposal should be minimized and it should only be undertaken under international supervision. The Revised Definition and Recommendations had been agreed upon by technical and legal experts representing 23 countries and three international organizations, and they constituted a carefully balanced consensus arrived at with some difficulty. They provided a basis for the ocean disposal of radioactive waste that was more realistic in concept than the one it replaced and was also sufficiently cautious. They did not go as far as his delegation would wish in some matters, for instance in the provisions for international supervision and control, but his delegation did not believe that the Board should attempt to modify the expert advice it had been given on the matter. Rather, his delegation looked forward to further improvement by revision in the light of experience and supported the action recommended by the Director General.

(13) Mr. ESTRADA OYUELA (Argentina) also expressed support for the Director General's recommendations. He noted with satisfaction that stress was laid in paragraph B.1.2 on, inter alia, the need for keeping collective doses down to the lowest level required under the dose limitation system of ICRP, which, incidentally, had been taken into account by Argentina in establishing its own basic standards. There was nevertheless need for caution in applying the Definition and Recommendations in the new version.



(14) Mr. GILLON (Belgium): He, too, was in favour of the measures recommended by the Director General. He would, however, like to see a reference inserted in paragraph C.7 also to multinational consultations. <sup>\*/</sup>

(15) Mr. CARTER (Canada): The Canadian authorities were seriously concerned about the content of paragraph 2.3.6.2 of the Annex to the Revised Definition and Recommendations, which gave the impression that the figures cited represented quantities carrying no risk because a substantial safety factor had been taken into account in their computation. It was accordingly to be feared that authorities might regard the release rate limits as quantities that could be approached quite closely, whereas for the Advisory Group they undoubtedly represented assessment corresponding to the best possible forecasts in the present state of knowledge. It would therefore be advisable to amend that paragraph. His delegation would transmit an appropriate text to the Secretariat <sup>\*\*/</sup>, with the request that the Canadian views should be stated in the communication to be addressed to IMCO. Lastly, his delegation associated itself with the comments made by the United States delegation in regard to average gross mass.

(16) Mr. HOFFMANN (Federal Republic of Germany): In view of the evolving consensus, his delegation would not insist on immediate revision and would raise no objection to the transmittal to IMCO of the Revised Definition and Recommendations. The Federal Republic of Germany would, for its part, adopt more stringent regulations. His delegation strongly advocated an early revision of the Revised Definition and Recommendations on the lines indicated by him in his earlier intervention. He would ask the Secretariat to communicate the reservations and general remarks of his delegation to IMCO.

<sup>\*/</sup> Such a reference has been subsequently inserted in Section C.7.3 of the Revised Definition and Recommendations, and in paragraph 2.10.2 of the Annex thereto.

<sup>\*\*/</sup> The revised text of paragraph 2.3.6.2 of the Annex as subsequently agreed upon by the Canadian authorities and the IAEA Secretariat now appears in document INFCIRC/205/Add.1/Rev.1, page 19.



APPENDIX

Reservation by the Government  
of the Federal Republic of Germany

The IAEA Revised Definition and Recommendations Concerning Radioactive Wastes and Other Radioactive Matter, set forth in document INFCIRC/205/Add.1/Rev.1 are based on the concept that the cumulative effect of radiation resulting from sea dumping on the population should not exceed 500 mrem/a. The Government of the Federal Republic of Germany has strong reservations against the adoption of this concept although it corresponds to certain ICRP recommendations. In this context, it should be stressed in particular that ICRP recommendation No.26 does call for a limitation of release rate limits to 100 mrem/a in the case of continuous radiation. The Government of the Federal Republic of Germany is also of the opinion that in fixing the release rate limits at 500 mrem/a the general principle of keeping release limits "as low as reasonably achievable" has not been taken into account and, therefore, a revision of this concept should be provided for at the earliest possible moment.

The Government of the Federal Republic of Germany would welcome very much such a revision. In full agreement with the evolving international trend the Government of the Federal Republic of Germany has already introduced, on the national level, a restrictive protection concept of 30 mrem/a. A detailed analysis of the radioecological model, which forms the basis of the Definition and Recommendations, is presently being carried out by the competent authorities in the Federal Republic of Germany.

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ANNEX 10

PRACTICAL ARRANGEMENTS FOR THE IMPLEMENTATION OF THE  
OECD COUNCIL DECISION OF 22ND JULY, 1977  
ESTABLISHING A MULTILATERAL CONSULTATION  
AND SURVEILLANCE MECHANISM FOR  
SEA-DUMPING OF RADIOACTIVE WASTE

Note by the Secretariat of the OECD Nuclear Energy Agency

Introduction

The essential purpose of the Decision of the OECD Council of 22nd July, 1977 establishing a Multilateral Consultation and Surveillance Mechanism for Sea-dumping of Radioactive Waste<sup>\*/</sup> is to reinforce international co-operation in the development of standards and procedures for protecting the marine environment against pollution caused by sea-dumping of radioactive materials. The adoption of a Multilateral Consultation and Surveillance Mechanism by OECD Member countries is thus in direct furtherance of the objectives of the London Convention which encourages such co-operation between Contracting Parties to satisfy all parties concerned that dumping of radioactive materials into the sea is carried out in accordance with the requirements of the Convention and the relevant Definition and Recommendations of the IAEA.

The OECD Consultation and Surveillance Mechanism involves:

- (a) the establishment and updating of standards, guidelines and recommendations to be applied to dumping operations at sea, as well as assessments of dumping sites and related environmental aspects;

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<sup>\*/</sup> The Member countries participating in the Decision are:  
Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

- (b) procedures for notification and consultation among Participating countries on the conditions proposed for dumping operations;
- (c) international surveillance of proposed operations by NEA representatives appointed for this purpose;
- (d) recording of the operations and reporting to the Steering Committee for Nuclear Energy and the Environment Committee of OECD, as well as to IMCO.

The role of NEA under the OECD Council Decision is to ensure proper administration of this Mechanism.

#### Implementation of the Council Decision

The revised IAEA Definition and Recommendations [INFCIRC/205/Add.1/Rev.1] provide general guidance on standards and procedures to be applied to sea-dumping of radioactive waste. These should serve as a basis for developing any such more detailed standards and procedures by NEA as may prove necessary for the purpose of the OECD Council Decision. On the other hand, whenever the IAEA recommendations would appear sufficient to fulfil the objectives of the OECD Council Decision, NEA would refrain from any specific action and would simply apply the IAEA existing standards and procedures. The action programme adopted by NEA for the implementation of the Council Decision should be seen in that context.

The present status of practical arrangements made under this NEA action programme is described below.

#### (1) Standards, Guidelines and Recommendations

##### (a) Dumping Sites

As far as guidelines for the identification of suitable dumping sites are concerned, it is considered that the revised IAEA Recommendations as set out in Section C.2 are adequate and need not, for the present, be expanded. The continued suitability of the dumping site in the North-east Atlantic region which is currently being used under the NEA Multilateral Consultation and Surveillance Mechanism, should be reviewed by NEA [under Article 2(a)(iii) of the OECD Council Decision]. This review will take place in November 1978 and will be carried out in the light of the new oceanographic and radiological bases of the revised IAEA Definition and

Recommendations. In conjunction with this exercise, an examination will also be made of the question of environmental monitoring programmes specifically related to dumping operations carried out under the NEA Consultation and Surveillance Mechanism.

As far as environmental, ecological and radiological protection assessments are concerned, it is considered that the revised IAEA Definition and Recommendations have been based on a review of the most recent scientific data and to some extent, therefore, fulfil the requirements of Article 2(a)(ii) of the OECD Council Decision. In addition, NEA will organize a seminar on specific aspects of marine ecology in 1979 as a way of furthering knowledge of the mechanisms governing the transfer of radioactive substances in the marine environment.

(b) Packaging of Radioactive Waste intended for Sea-dumping

In accordance with Article 2(a)(i) of the Council Decision, a group of experts will meet in early October 1978 to undertake a revision of the current NEA guidelines for sea disposal packages of radioactive waste (published in 1974). The purpose of the revision is to take account of improvements in conditioning techniques over the last few years and to clarify certain provisions in the light of practical experience gained in recent dumping operations. This work will be carried out in the light of the IAEA revised Definition and Recommendations.

(c) Operating Procedures

Operating procedures are defined among the duties and responsibilities of national escorting officers in Section C.5.2. of the revised IAEA Definition and Recommendations. Practical experience has shown that more detailed guidelines for operating procedures, including criteria for the suitability of ships, are needed to increase the overall safety of dumping operations and to facilitate their effective supervision. Such detailed procedures would also help in clarifying the respective responsibilities of national escorting officers and of the NEA representatives in ensuring that dumping operations are carried out in accordance with established safety rules. Plans are being made by NEA under Article 2(a)(i) of the Council Decision to convene a working party to discuss all relevant aspects and help prepare detailed operating procedures.

## (2) Notification and Consultation Procedures

Under the NEA Consultation and Surveillance Mechanism Participating countries which have determined to carry out a radioactive waste sea-dumping operation are requested to notify NEA of the details of their proposed operations so that their conformity with agreed standards and procedures can be verified. This information is first examined by NEA and then circulated to all Participating countries for consideration.

To facilitate consultation with Participating countries prior to the execution of dumping operations, harmonized notification procedures have been adopted through agreed formats for the three types of notification required under Article 3 of the Council Decision, ie.

- 12 months before the operation is scheduled to take place if a new dumping site is proposed, giving details of the proposed site
- 6 months before the operation if the dumping site is not a new one, giving general indications on the site and on the wastes to be dumped, and again, in either case
- 3 months before the operation, this time giving fuller details of the characteristics of the operation.

## (3) International Surveillance

Under the London Convention, the organization of dumping operations is the sole responsibility of the countries undertaking them. By adopting the NEA Mechanism Participating countries have undertaken to subject such operations to international surveillance to satisfy all interested parties that these operations are carried out in accordance with established rules. Such a surveillance should therefore be seen as a supplement to the national control provided for in the London Convention.

The international surveillance provided by NEA under Article 6 of the OECD Council Decision is ensured through the appointment of NEA Representatives by the Director General of NEA. NEA Representatives are appointed among a list of suitably qualified candidates nominated by Participating countries. The qualifications required for the NEA Representatives are based on the IAEA requirements in Section C.5.4. of the revised Definition and Recommendations. The duties and rights

of NEA Representatives as defined in Article 6 of the Council Decision are to be performed in accordance with detailed instructions from the Director General of NEA.

(4) Records and Reporting

- (a) In accordance with Article 7(a) of the Council Decision, the NEA Secretariat maintains records of dumping operations carried out under the Mechanism. Particulars entered in the NEA records are in accordance with an agreed format. These records are open for consultation by Member countries' national authorities only.
- (b) Based on the reports of NEA Representatives on the execution of dumping operations to the Director General of NEA, detailed reports are provided to the Steering Committee for Nuclear Energy and to the Environment Committee of OECD.
- (c) In accordance with Article 7(c) of the Council Decision, Participating countries have agreed that NEA should also report to IMCO the information recorded pursuant to Article 7(a) (as stated in sub-paragraph (a) above). The information to be made available to IMCO will comply with the format given in the Appendix to this Note.



APPENDIX

Format for reporting to IMCO

1. Name(s) of Participating Country(ies).
2. Period of dumping operation(s).
3. Dumping site(s).
4. Origin of waste and conditioning.
5. Type and quantity of waste dumped:

Country	Gross Weight* (tonnes)	Radioactivity (Ci)		
		Beta/ gamma	Tritium	Alpha
Total				

6. Dumping method.

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\*including the weight of containers

Comments on the Practical Arrangements made by the  
Delegation of the United States

The United States requests that these comments be inserted in the report of the Third Consultative Meeting and also submitted separately to the OECD/NEA.

The United States commend and endorse the continuing NEA efforts under Article 2(a)(i) of the OECD Council Decision to keep under continuing review the measures for protecting the marine environment against pollution from sea disposal of nuclear waste; particularly their efforts to:

- (1) update their Guidelines for Sea Disposal Packages for Radioactive Waste;
- (2) review the continued acceptability of the North-East Atlantic dumpsite;
- (3) examine the question of environmental monitoring programmes related to sea disposal of nuclear wastes;
- (4) conduct a seminar on marine radioecology to obtain the latest information on radionuclide transport processes.

The United States specifically requests that, in view of the above programme of work, the NEA should:

- (1) update their Guidelines for Sea Disposal Packages, with specific regard to Section B.1.3 of the IAEA Revised Recommendations, to ensure that a general policy of continued isolation and containment of radioactive waste after descent to the sea-bed is pursued to the extent reasonably achievable.

This is particularly important if release rates are to be controlled in a demonstrably quantifiable manner.

- (2) Request the Participating Countries to the Council Decision who anticipate continued use of the North-East Atlantic dumpsite, to prepare individually or collectively the necessary environmental assessment envisaged under both Article 3(iii) of the Council Decision and the IAEA Recommendations as set out in Sections B.1.4, B.2.1, and B.3.1.

- (3) In examining the question of environmental monitoring programmes, recognize the specific guidance provided by IAEA in Section 2.5.2 of the Annex to the Definition and Recommendations.

The United States feels strongly that environmental monitoring of radioactive waste dumpsites should be carried out.

The delegation of the United States has a particular concern with the ambiguity of the NEA procedure for determining when IAEA Recommendations "would appear sufficient" to fulfil the objectives of the OECD Council Decision (Note by the Secretariat of the OECD Nuclear Energy Agency, LDC III/6/1, page 3) and seeks clarification, through the IMCO Secretariat, of the mechanism or mechanisms for making this determination (e.g. would such a decision be subject to review by the NEA Steering Committee, the OECD Environment Committee, etc?).

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