

MARINE ENVIRONMENT PROTECTION
COMMITTEE
40th session
18 to 23 and 25 September 1997
Agenda item 21

**REPORT OF THE MARINE ENVIRONMENT PROTECTION
COMMITTEE ON ITS FORTIETH SESSION**

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1 INTRODUCTION

1.1 The fortieth session of the Marine Environment Protection Committee was held at IMO Headquarters from 18 to 25 September 1997, excluding 24 September 1997, under the chairmanship of Mr. Pieter Bergmeijer (Netherlands).

1.2 The session was attended by delegations from:

ALGERIA	LIBERIA
ANGOLA	LITHUANIA
ANTIGUA AND BARBUDA	MALAYSIA
ARGENTINA	MALTA
AUSTRALIA	MEXICO
BAHAMAS	MOROCCO
BAHRAIN	NETHERLANDS
BELGIUM	NEW ZEALAND
BELIZE	NIGERIA
BENIN	NORWAY
BRAZIL	PANAMA
CAMEROON	PERU
CANADA	PHILIPPINES
CHILE	POLAND
CHINA	PORTUGAL
COLOMBIA	REPUBLIC OF KOREA
COSTA RICA	ROMANIA
CUBA	RUSSIAN FEDERATION
CYPRUS	SAINT VINCENT AND THE GRENADINES
DENMARK	SAUDI ARABIA
ECUADOR	SINGAPORE
EGYPT	SOLOMON ISLANDS
ESTONIA	SOUTH AFRICA
FINLAND	SPAIN
FRANCE	SWEDEN
GERMANY	SYRIAN ARAB REPUBLIC
GREECE	THAILAND
INDIA	TRINIDAD AND TOBAGO
INDONESIA	TUNISIA
IRAN (ISLAMIC REPUBLIC OF)	TURKEY
IRELAND	UKRAINE
ISRAEL	UNITED KINGDOM
ITALY	UNITED REPUBLIC OF TANZANIA
JAMAICA	UNITED STATES
JAPAN	VANUATU
KUWAIT	VENEZUELA
LATVIA	

by representatives from the following associate Member of IMO:

HONG KONG, CHINA

by representatives from United Nations and Specialized Agencies:

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)
UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)
UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)
ECONOMIC COMMISSION FOR EUROPE (ECE)
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)

by observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)
LEAGUE OF ARAB STATES
INTERNATIONAL OIL POLLUTION COMPENSATION FUND (IOPC FUND)
HELSINKI COMMISSION (HELCOM)

and by observers from the following non-governmental organizations:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
INTERNATIONAL SHIPPING FEDERATION LIMITED (ISF)
INTERNATIONAL CONFEDERATION OF FREE TRADE UNIONS (ICFTU)
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES (PIANC)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
BALTIC AND INTERNATIONAL MARITIME COUNCIL (BIMCO)
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
INTERNATIONAL LAW ASSOCIATION (ILA)
EUROPEAN COUNCIL OF CHEMICAL MANUFACTURERS' FEDERATIONS (CEFIC)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS (IADC)
INTERNATIONAL ASSOCIATION OF THE INSTITUTES OF NAVIGATION (IAIN)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
OIL INDUSTRY INTERNATIONAL EXPLORATION AND PRODUCTION FORUM (E & P FORUM)
ASSOCIATION OF EUROPEAN SHIPBUILDERS AND SHIPREPAIRERS (AWES)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
INTERNATIONAL GROUP OF P AND I ASSOCIATIONS (P AND I CLUBS)
INTERNATIONAL TANKER OWNERS POLLUTION FEDERATION LIMITED (ITOPF)
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN)
ADVISORY COMMITTEE ON PROTECTION OF THE SEA (ACOPS)
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS LTD (SIGTTO)
INTERNATIONAL ROAD TRANSPORT UNION (IRU)
GREENPEACE INTERNATIONAL
INTERNATIONAL COUNCIL OF CRUISE LINES (ICCL)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
WORLD WIDE FUND FOR NATURE (WWF)

ASSOCIATION OF EUROPEAN MANUFACTURERS OF INTERNAL COMBUSTION
ENGINES (EUROMOT)
THE INSTITUTE OF MARINE ENGINEERS (IME)
INTERNATIONAL SHIP MANAGERS' ASSOCIATION (ISMA)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)

The Chairman of the Maritime Safety Committee, Dr. G. Pattofatto (Italy), the Chairman of the Technical Co-operation Committee (TC), Mr. J. Lomónaco (Mexico), the Chairman of the Facilitation Committee (FAL), Mr. L.D. Barchue, Sr. (Liberia), the Chairman of the Sub-Committee on Bulk Liquids and Gases, Mr. M. Böckenhauer (Germany), the Chairman of the Sub-Committee on Flag State Implementation, Mr. J.W. Vonau (Poland), the Chairman of the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, Mr. T. Allan (United Kingdom) were also present.

1.3 In welcoming participants the Secretary-General noted the special significance of the meeting, being held in conjunction with the Conference on Prevention of Air Pollution from Ships, the purpose of which was to adopt a Protocol to the MARPOL Convention. The requirement for this Protocol showed clearly that IMO had much still to do in protecting the environment from pollution, which was confirmed when reviewing the Committee's agenda.

1.4 The Secretary-General drew attention to the progress made in developing measures to regulate the maritime transport of irradiated nuclear fuels and similar materials. It was anticipated that some of the outstanding issues would be resolved at this session and the Committee would present an encouraging report to the twentieth regular session of the IMO Assembly in November.

1.5 Unfortunately, issues such as inadequacy or total lack of reception facilities in ports have been on the Committee's agenda for some time and reflected the failure of some parties of MARPOL 73/78 to fully implement it. He expressed the hope that the meeting would help resolve some of the difficulties that have inhibited the development of reception facilities which would facilitate wider acceptance and full implementation of MARPOL.

1.6 The Secretary General recalled that the grounding of the **Torrey Canyon** thirty years ago had led to the expansion of IMO's activities in the environmental field, and that the recently published report of the grounding of the **Sea Empress** could well result in proposals for new regulations. The two serious oil pollution accidents which affected the Japanese coastlines earlier this year further illustrated the dangers that oil spills present. He regretted that IMO had all too often been asked to do something after a disaster had occurred and stated that it was important to concentrate on the reduction of human error, which is the cause of 80% of accidents, IMO therefore placed the greatest emphasis on implementation and the human element.

1.7 A reflection of this emphasis could be found in the current activities of the OPRC Working Group. He pointed out that the OPRC Convention required a long-term commitment by governments and the industry, not only to coping with emergencies but also to developing and delivering model training courses, making contingency plans, arranging and financing training programmes and generally giving the Convention the continuous support that is needed to make it work, if and when it is needed, therefore, the product of the OPRC Working Group was highly pertinent.

1.8 With the entry into force on 1 July 1998 of the ISM Code, the Secretary-General stated compliance with the Code would result in improvements in the quality of ship management which in turn should result in a reduction of accidents and consequential pollution of the seas. Therefore 1998 will be an important year for IMO and world shipping, it will also be significant because this year has been declared as the International Year of the Ocean by the United Nations. The Secretary-General

assured the Committee that the Secretariat will play its part in celebrating this event and, in particular, will use it as an opportunity to increase public awareness of IMO's role in promoting the safe and environmentally sound use of the oceans.

1.9 Since 1998 also marks the 50th Anniversary of the adoption of the IMO Convention, the Secretary-General has decided to hold an exhibition at IMO Headquarters in March of that year which will also contribute to marking the Year of the Ocean.

1.10 The Secretary-General informed the Committee that he had recently accepted, on behalf of IMO, the 1997 Onassis Prize for the Environment, which carried with it a grant of US\$250,000. He advised that this grant would be used to enhance IMO's efforts to improve the protection of the marine environment and to generate additional funding for the technical assistance in this field. The Committee noted with great pleasure the information provided by the Secretary-General.

1.11 The Secretary-General recalled that the Council in June had approved the budget for the next biennium as being exactly the same as that for the present biennium which, taking inflation and other factors into account, represented a cut of 5% in real terms for the next two years. He requested that the Committee take this situation into account when considering its future work programme.

1.12 The Committee noted the report of the Secretary-General that credentials of the delegations were in due and proper order.

1.13 The agenda for the session, as adopted by the Committee, together with the list of documents considered under each item, is shown at annex 1.

2 STATUS OF CONVENTIONS

2.1 The Committee took note of the status of international conventions relating to marine pollution in a composite document including tables prepared by the Secretariat (MEPC 40/2), together with information provided by the Secretary on the acceptances received since the above document was prepared. As at 1 July 1997 the percentages of the world's merchant tonnage represented by the current number of Parties in respect of MARPOL 73/78 and OPRC, were as follows:

	Annexes I & II	Annex III	Annex IV	Annex V	OPRC
Number of Parties	100	81	66	83	31
% Tonnage	93.47%	78.21%	41.46%	82.02%	-

2.2 The Secretary noted for the record that, since the issue of MEPC 40/2 on 18 July 1997, instruments of accession had been deposited as follows:

- .1 Islamic Republic of Iran - 1969 Intervention Convention; and
- 1973 Intervention Protocol (25 July 1997);
- .2 Malaysia - OPRC Convention (30 July 1997);
- .3 United Kingdom - OPRC Convention (16 September 1997); and
- .4 Singapore - 1992 CLC Protocol (18 September 1997)

3 BULK LIQUIDS AND GASES

Background

3.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/3 and MEPC 40/3/3 (Secretariat), MEPC 40/3/1 and MEPC 40/3/2 (Norway), MEPC 40/3/4 (Japan) and MEPC 40/3/5 (ICS).

3.2 The Committee noted that the second session of the Sub-Committee on Bulk Liquids and Gases was held from 7 to 11 April 1997 and reported under BLG 2/15 with the actions requested of MEPC being reproduced in MEPC 40/3.

3.3 The Committee considered each of these action items, taking account of those submissions from Norway, Japan and ICS at the appropriate time. The discussion associated with each action item and the actions taken are summarized below.

Status report on the revision of Annex I

3.4 The Committee recalled that, in accordance with the General Action Plan and Terms of Reference for the revision of Annex I, as shown in MEPC 37/22/Add.1, annex 21, editorial changes have been made, along with some consequential and possible substantial changes to Annex I and these are reflected in the status report (BLG 2/15, annex 3, part I).

3.5 The Committee noted that this status report specifically addressed the following six aspects :

- .1 the format of the future Annex I;
- .2 the double bottom requirements in machinery spaces for tankers;
- .3 inconsistencies related to the Oil Record Book, part 1;
- .4 inconsistencies in regulations related to clean ballast;
- .5 revision of IMO resolution A.446(XI) - COW specification; and
- .6 harmonization of tank location.

3.6 The Committee approved the proposed general format of the future Annex I recognizing that further development would be necessary at BLG 3 before it can be finalized.

3.7 The Committee approved the decision by BLG 2 that, for the purpose of harmonization, there is no need for further amendment of the existing SOLAS or MARPOL regulations addressing double bottom requirements for oil tankers in machinery spaces.

3.8 The Committee concurred with BLG's decision that the inconsistencies in the Oil Record Book required further consideration by the Sub-Committee.

3.9 The Committee concurred with BLG's decision to give further consideration to the inconsistencies in the regulations related to clean ballast during the revision of Annex I.

3.10 The Committee recalled that papers, previously submitted to MEPC, proposing to update the revised specification for the design and operation of COW systems had been referred to BLG for its consideration. Subsequently BLG had identified other important issues which should be discussed further. Whilst recognizing that BLG has not been given specific instructions to consider these aspects, the Committee approved the decision of BLG to include them in its agenda for BLG 3 in association with the revision of Annex I, so that a general discussion can take place to include all of the aspects raised. As a result, the Committee instructed the Secretariat to forward MEPC 40/18/6 to BLG 3 for its consideration under this agenda item.

3.11 The Committee noted the request from BLG to provide guidance on how to proceed with the harmonization of tank location requirements following the identification of inconsistencies between the requirements for the location of cargo tanks currently provided in Annexes I and II of MARPOL 73/78.

3.12 In accordance with the terms of reference for the revision of MARPOL Annexes I and II, the Committee recognized the need to identify and list inconsistencies between the two annexes and to elaborate ways to eliminate them. In addition, the Committee noted the view, expressed by one delegation, that, whilst there may be differences, these do not necessarily constitute inconsistencies. As a result, the Committee instructed BLG to consider these aspects in more detail and report back to MEPC 42.

Status report on the revision of Annex II

3.13 The Committee noted the status report on the revision of MARPOL 73/78, Annex II (BLG 2/15, annex 3, part II) which addressed hazard evaluation and pollution categorization schemes as well as editorial amendments and progress in efficient stripping systems.

3.14 The Committee noted that the editorial changes were progressing efficiently and in a non-controversial manner and instructed BLG to continue with this part of the revision process.

3.15 The Committee noted submissions from Japan (MEPC 40/3/4) and ICS (MEPC 40/3/5) which addressed areas of concern related to the revision of the present pollution categorization system applied to noxious liquid substances subject to Annex II of MARPOL 73/78.

3.16 In presenting its paper (MEPC 40/3/4), Japan expressed its opposition to changing the categorization scheme until problems with the existing system have been properly identified. Whilst recognizing, in principle, the need to revise the parameters covered by the GESAMP Hazard Profiles, Japan was of the opinion that this could be accommodated in the existing 5-Category Scheme. Japan has also expressed the view that maritime industries would be seriously confused if the carriage requirements were to be amended drastically.

3.17 In presenting its paper (MEPC 40/3/5), ICS indicated that it considered the recategorization process to be proceeding too rapidly and is in danger of pre-empting the discussions being held in the global harmonization exercise. In addition, ICS expressed its concern that the recategorization process could lead to certain types of vessels becoming commercially redundant and, therefore, further consideration should be given to the priorities and the time scale for this process.

3.18 Whilst recognizing the concerns expressed in the submissions from Japan and ICS, the Committee agreed that it was inappropriate to make any decisions related to recategorization until it had all of the facts before it, including environmental, economic, practical and administrative

considerations. As a result, the Committee, in reconfirming the terms of reference of the Sub-Committee (MEPC 37/22/Add.1, annex 21), instructed BLG to continue with its work in developing alternative categorization systems along with all the resultant pros and cons of introducing such a system. In addition, the Committee instructed the Secretariat to monitor the developments in the OECD Global Harmonization Proceedings and ensure that IMO's interests are considered.

Upgrading and Downgrading of Products in the IBC Code

3.19 The Committee recalled its original decision that, when changes to a product's Pollution Category or Ship Type result in an upgrading, such changes should only be brought into force through formal amendments to the Convention and the Codes, so as to give sufficient advance notification of this change. However, when changes result in a downgrading, the decision on whether to implement less stringent requirements, prior to formal amendment, would be left to Administrations (ref: MEPC 25/20, paragraph 3.22).

3.20 The Committee noted that annex 1 of MEPC.2/Circs now show future upgrades and downgrades of products in the IBC Code which provide a constant reminder of such impending changes.

3.21 Recognizing that the current situation has caused some confusion about the status of changes, the Committee approved the decision that neither upgrades nor downgrades should be implemented until amendments to the IBC Code have entered into force.

Assessment of substances for inclusion in MEPC.2/Circulars

3.22 The Committee noted that the products assessed by BLG 2 for inclusion into the next MEPC.2/Circular included those that the Sub-Committee had agreed should not be upgraded by virtue of being evaluated as Tainters by the GESAMP EHS Working Group.

3.23 In presenting its paper (MEPC 40/3/1) Norway expressed its concern over this decision which it believed is not in line with the present requirements of the MARPOL Convention.

3.24 Whilst noting Norway's position, which was supported by Australia and Peru, the Committee recognized that, to make upgrades based on this property, at this time, could lead to confusion and administrative difficulties if, as expected, the same products are to be downgraded again in the future when the new criteria for operational pollution categorization are developed on the basis of new GESAMP evaluation system (see MEPC 40/5/1).

3.25 As a result, the Committee approved the decision of BLG to not upgrade products on the basis of their Tainting potential at this time.

MSC/MEPC Circular on Equivalency arrangements for the carriage of styrene monomer

3.26 With reference to MEPC 40/3/1, the Committee agreed that this was a safety issue which should be considered, first, by the MSC. As a result, the Committee deferred making a decision on this aspect until MEPC 42, when it was expected that the views of MSC would be known.

Intersessional meetings of the ESPH Working Group

3.27 The Committee noted that this aspect had been overtaken by events as MSC had already approved the holding of this meeting in 1998 and Council had endorsed this decision, and endorsed the holding of the meeting in 1998.

"Coulombi Egg" tanker design concept

3.28 The Committee approved the design concept of the "Coulombi Egg" tanker in principle, in accordance with MARPOL 73/78 regulation I/13F(5) as an equivalent to the basic double hull requirement. As a result, the Secretariat was instructed to issue an MEPC circular approving the design concept, in principle, and including the description and diagram shown at annex 11 to BLG 2/15.

3.29 The delegation of the United States stated that it does not consider the "Coulombi Egg" tanker design equivalent to the double hull design. The "Coulombi Egg" design was evaluated by the United States in its study and report to the United States Congress on tank vessel designs and has not been found acceptable as equivalent to double hulls. Therefore, tank vessels meeting the "Coulombi Egg" design as an equivalent to the double hull design will not be allowed in United States ports.

Approval of the report in general

3.30 Subject to the points made in paragraphs 3.4 to 3.29, the Committee approved the report in general.

Equivalent arrangements under MARPOL 73/78 and the IBC Code

3.31 Referring to MEPC/Circ.327, a notification from the Malaysian Administration on an equivalent arrangement accepted under regulation 2(5) of Annex II of MARPOL 73/78 and paragraph 1.4.1 of the IBC Code, Norway expressed its view that it is an interpretation of the defined term B (breadth) given in 1.3.4 of the IBC Code. While accepting the equivalencies of the two Malaysian vessels, Norway proposed that, in order to ensure the equivalency established by Malaysia does not form a model for further similar equivalencies, BLG be instructed to consider this issue with a view to establishing a common attitude among the Parties to SOLAS and MARPOL 73/78 (MEPC 40/3/2).

3.32 The Committee agreed with the proposal by Norway and instructed the BLG Sub-Committee to consider this issue.

4 FLAG STATE IMPLEMENTATION

4.1 Under this agenda item, the Committee had before it documents MEPC 40/4 (Secretariat), MEPC 40/4/1 (Report of the Correspondence Group on Enforcement of MARPOL 73/78), MEPC 40/4/2 (Secretariat) and MEPC 40/4/3 (India). In view of its connection with the future work programme, MEPC 40/4/3 was dealt with under agenda item 18.

Report of FSI 5

4.2 The Committee noted that the fifth session of the Sub-Committee on Flag State Implementation (FSI) was held from 13 to 17 January 1997 and its report was issued as FSI 5/16. The Committee approved, in general, the report of FSI 5 and took action as indicated hereunder.

Implementation of the ISM Code

4.3 The Committee, noting the advice of FSI 5 concerning progress made in the implementation of the ISM Code in 1997, considered the draft Assembly resolution on Implementation of the International Safety Management (ISM) Code as revised and approved by MSC 68 (MSC 68/23, annex 6) for submission to the twentieth session of the Assembly for adoption. The Committee approved the draft Assembly resolution and deleted square brackets therein, except for those in the preambular paragraph "NOTING" around the words "small" and "insufficient", as the use of either of these words are to be decided at the time of consideration by the Assembly.

Guidelines to assist flag States

4.4 With regard to the draft Assembly resolution on Guidelines to assist flag States in the implementation of IMO instruments prepared by FSI 5, which is to supersede resolution A.740(18) on Interim guidelines to assist flag States, the Committee noted that MSC 68 had approved the draft Assembly resolution, but added a new paragraph 5.2 as proposed by Canada, the Netherlands and ICFTU. After discussion, the Committee approved the draft Assembly resolution as revised by MSC 68 as set out in MSC 68/23, annex 7, for submission to the twentieth session of the Assembly for adoption.

Code for the investigation of marine casualties and incidents

4.5 The Committee, noting that MSC 68 had approved the draft Assembly resolution on the Code for the investigation of marine casualties and incidents (MSC 68/23, annex 8) and agreed that technical guidelines to assist investigators would be attached to the Code, approved the draft Assembly resolution for submission to the twentieth session of the Assembly for adoption. In doing so, the Committee noted that the Code would only apply in so far as national law allows.

MSC/MEPC circular on recognized organizations

4.6 The Committee noted the FSI Sub-Committee's instruction to the Secretariat to issue a circular, amalgamating into a single document all the relevant guidelines, minimum standards, specifications, model agreements, etc., relating to the authorization of organizations acting on behalf of the Administration contained in different resolutions and MSC/MEPC circulars. The circular has already been issued as MSC/Circ.788 and MEPC/Circ.325, and the Committee endorsed this action.

Certificates to non-Party ships

4.7 The Committee agreed with the FSI Sub-Committee's decision to deal with the matter of issuance of certificates to non-Party ships through an agreed interpretation as set out in FSI 5/16, paragraph 6.6.

Port State control matters

4.8 The Committee endorsed the FSI Sub-Committee's invitation to port States to provide meaningful information on the classification societies involved in the detention of ships, since the lack of this information has not allowed the Secretariat to prepare the statistics requested by the Sub-Committee. "Meaningful information" would entail information on those detainable deficiencies in items surveyed by the classification society concerned.

4.9 The Committee agreed with the Sub-Committee's instruction to the Secretariat to write to donor Governments and Organizations explaining the need for the proper development of an appropriate IMO

database on deficiency, information on ship identification and particulars and inviting them to share in the amount needed (approximately US\$25,000 per year).

4.10 The Committee endorsed the reiterated decision of the Sub-Committee that individual port States could allow relevant PSC organizations to supply to IMO the pertinent information on deficiency reports on their behalf. Also, it also agreed with the Sub-Committee's view that Member States of any regional agreement would be answerable to the accuracy of such reports and that complaints from flag States would be raised with the port State concerned.

4.11 The Committee agreed with the Sub-Committee that port State control inspections of foreign flag ships should only be undertaken by duly authorized and qualified port State officers in ports of the State concerned and that all Members are invited to follow the established practice that the first and single visit to a vessel for port State control purposes is not charged.

Human element

4.12 The Committee concurred with the FSI Sub-Committee's decision to invite Member States to provide information on whether the human element was the underlying cause of a casualty and on injuries sustained by crew members or passengers and to report this to the Secretariat, together with the number of lives lost in the casualty.

4.13 The Committee endorsed the Sub-Committee's decision that the human element guidelines for marine casualty investigations contained in the report of the Joint IMO/ILO *ad hoc* Working Group (JWG) on Investigation of Human Factors in Maritime Casualties (FSI 5/WP.1), after amalgamation with the "technical" guidelines considered by the Working Group on Casualty Analysis and Statistics during FSI 5, should be attached to the Code for the investigation of marine casualties and incidents at a later stage and preferably as a booklet (see paragraph 4.5 above).

MSC/MEPC circular on Reports on marine casualties and incidents

4.14 The Committee approved the draft MSC/MEPC circular on Reports on marine casualties and incidents - Harmonized reporting procedures as set out in FSI 5/16, annex 4.

4.15 The Committee noted that the reservations of the delegation of Liberia as contained in the report of MSC 68 (MSC 68/23, paragraph 7.17) is also applicable to conventions under the auspices of the Committee.

4.16 The Committee endorsed the Sub-Committee's instruction to the Secretariat to issue a circular letter inviting Members to provide IMO with preliminary information on casualties from rescue co-ordination centres via the most appropriate channel and to convey the above information to the COMSAR Sub-Committee.

4.17 The Committee endorsed the Sub-Committee's agreement with the simplified approach concerning the direct natural resources damages as shown in FSI 5/16, annex 4, page 44 with regard to the draft MSC/MEPC circular on Marine casualties reports.

Qualification of "severe pollution"

4.18 The Committee agreed with the FSI Sub-Committee in inviting Member States to verify the qualification of "severe pollution" assigned by the Secretariat to certain casualties within the proposed lists of very serious casualties and to inform the Secretariat of all casualties that have, in their consideration, resulted in "severe pollution" as defined by MEPC 37.

Title of MEPC/Circ.318

4.19 With regard to title of circular MEPC/Circ.318 on Mandatory annual reports under MARPOL 73/78, the Committee noted that, although the present title of the MARPOL reporting formats did not include the word "annual", "annual" is used in all the subtitles of the MARPOL reporting formats. Therefore, no confusion would be caused with the marine casualty reports contained in the draft MSC/MEPC circular. Furthermore, MEPC/Circ.318 was an amended and simplified version and was only issued in 1996, and it is not appropriate to amend it again. The Committee decided to leave the title of MEPC/Circ.318 as it is. In doing so, the Committee emphasized that the mandatory annual reports under MARPOL 73/78 are a useful tool to promote the effective implementation of the Convention and urged all Parties to submit their mandatory annual reports to the Organization.

Footnotes to PSC regulations in MARPOL 73/78

4.20 The Committee noted that, as requested by FSI 5, the footnotes to regulation 8A of Annex I, regulation 15 of Annex II, regulation 8 of Annex III and regulation 8 of Annex V of MARPOL 73/78 with regard to port State control on operational requirements, have been modified to refer to resolution A.787(19), which has superseded resolution A.742(18), in the 1997 Consolidated Edition of MARPOL 73/78.

Work programme of the Sub-Committee

4.21 The Committee dealt with the FSI Sub-Committee's work programme under item 18.

MARPOL - How to enforce it

4.22 The Committee recalled that MEPC 38 agreed that a comprehensive review of the draft publication "MARPOL - How to Enforce It" should be undertaken and established a correspondence group for this purpose. The Committee received the report of the Correspondence Group (MEPC 40/4/1) and the revised draft so far prepared by the Group. The Committee was informed by the leader of the Correspondence Group, Ms. Dwynette Eversley (Trinidad and Tobago), who was unable to attend the present session of the Committee, that there was still some outstanding work on the draft and that the final draft would be submitted to MEPC 41. The Committee therefore, agreed to return to this issue when the final draft becomes available.

5 WORK OF OTHER BODIES

5.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/5, MEPC 40/5/1, MEPC 40/5/2, MEPC 40/5/3 and MEPC 40/5/4 (Secretariat), MEPC 40/5/5 (Report of the SPI Working Group), MEPC 40/5/6, MEPC 40/5/7, MEPC 40/5/8 and MEPC 40/INF.19 (Secretariat).

Outcome of LEG 75

5.2 The Committee noted that the seventy-fifth session of the Legal Committee was held from 21 to 25 April 1997 and took note of all the information contained in MEPC 40/5, in particular of the following points:

- .1 although no consensus was reached about the compelling need for an international regime on compensation for pollution from ship's bunkers, the Legal Committee decided to keep the matter under review;
- .2 a draft Convention on Wreck Removal is being developed; and
- .3 in connection with proposed liability amendments to the INF Code, the Legal Committee noted that IAEA planned a diplomatic conference to adopt a protocol to amend the Vienna Convention with respect to liability for nuclear damage.

GESAMP hazard evaluation procedures

5.3 The Committee recalled that MEPC 36 in 1994, agreed that GESAMP should review the evaluation of the hazards of harmful substances carried by ships which had been developed in 1972 for MARPOL 73/78 and which since that time had been strictly adhered to. GESAMP was requested, when carrying out its task, to take account of the ongoing discussions on the review of MARPOL Annex II, the possibility of creating a harmonized system with other non-maritime chemical transportation regulations, and new scientific developments.

5.4 The Committee noted that GESAMP at its twenty-seventh session, Nairobi, April 1997, approved the new evaluation procedures shown at annex to MEPC 40/5/1, recognizing however that some refinements might have to be incorporated when the ongoing discussions at OECD on "harmonization" have been completed.

5.5 After discussion, the Committee noted the results of GESAMP's review as set out at annex to MEPC 40/5/1. In this regard the Committee agreed to request the BLG Sub-Committee to take the revised evaluation procedures into account when reviewing MARPOL Annex II and the current form used for the submission of data on chemicals to IMO and GESAMP (MEPC/Circ.265).

Outcome of DSC 2

5.6 The Committee noted that the DSC Sub-Committee held its second session from 24 to 28 February 1997 and the report of DSC 2 was issued as DSC 2/16.

5.7 As requested by DSC 2, the Committee noted the following points:

- .1 The Sub-Committee's recommendation that, as a result of the UN Committee of Experts' decision, Amendment 29 to the IMDG Code should be finalized at DSC 3, adopted by MSC 69 and enter into force on 1 January 1999;
- .2 the decision by the Sub-Committee on the provision of a six-month transitional implementation period for Amendment 29 to the IMDG Code until 1 July 1999;
- .3 the recommendations made by the second session of the Intergovernmental Forum on Chemical Safety (Ottawa, 10 to 14 February 1997);
- .4 the Sub-Committee's decision, not to use the criterion of "tainting" for the categorization of marine pollutants in future;

- .5 the action taken by the Sub-Committee on the development of measures complementary to the INF Code; and
- .6 the action taken by the Sub-Committee to issue a DSC circular on reports on incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas.

5.8 In noting the above points, the Committee also noted that the DSC Sub-Committee has been considering the reformatting of the IMDG Code and to make the IMDG Code mandatory under SOLAS. Taking into account that the IMDG Code may be taken as already mandatory under MARPOL 73/78 as far as the "marine pollutants" in the IMDG Code are concerned, because the revised version of MARPOL Annex III, which came into force on 28 February 1994, used the IMDG Code as an implementation vehicle for Annex III, the Committee decided to request the DSC Sub-Committee, in the future, to report its activities relating to the IMDG Code, in particular those relating to Marine Pollutants, to this Committee as well, recognizing that the amendments to the IMDG Code would be adopted by the MSC.

Outcome of MSC 68

5.9 The Committee noted that the sixty-eighth session of the Maritime Safety Committee (MSC 68) was held from 28 May to 6 June 1997 and the report of that session was issued as MSC 68/23. Matters relating to specific agenda items of MEPC 40 were reported separately under respective agenda items for the Committee's ease of reference, while all other matters of interest to the Committee are summarized in MEPC 40/5/3 under this agenda item.

5.10 The Committee took note of all the information contained in MEPC 40/5/3, including those on bulk carrier safety, the proposed principles for charging users the cost of maritime infrastructure MSC 68 and the following points:

- .1 MSC 68 approved the draft MSC/MEPC circular on Guidance on safety aspects of ballast water exchange at sea; and
- .2 MSC 68 endorsed the decision of DSC 2 to reformat the IMDG Code and agreed to maintain the two-year cycle of amendments to the Code for 1997-1998; and
- .3 MSC 68 approved the draft Assembly resolution on Human element vision, principles and goals for the Organization and the MSC/MEPC circular on List of human element terms, both of which were approved by MEPC 39.

5.11 The Committee, noting that MSC 68 had approved the draft MSC/MEPC circular on Implementation of the ISM Code and interim documentation (MSC 68/WP.13, annex 1), approved the joint circular for circulation.

5.12 The Committee also noted the concerns expressed at MSC 68 in respect of Method 2 in the draft Guidelines on methods for making references to mandatory and non-mandatory IMO instruments and that the matter would be reconsidered at MSC 69 in May 1998, and the outcome of MSC 69 on the matter would be brought to the attention of the Committee. The Committee agreed to come back to the issue after MSC 69.

Outcome of C 68

5.13 The Committee noted that the seventy-eighth session of the Council was held from 23 to 27 June 1997 and the Council took the following actions with regard to the report of MEPC 39:

- .1 the Council endorsed the holding of the Conference of Parties to MARPOL 73/78 on the Prevention of Air Pollution from Ships in September 1997 in conjunction with MEPC 40;
- .2 the Council noted the outcome of the Committee's consideration of the application of its Guidelines on the organization and method of work; and
- .3 the Council approved the holding of an intersessional meeting of the BLG Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals.

5.14 In this regard, the Committee also noted that, following MSC 68 and as requested in the report of that meeting, the Council also approved the holding of an intersessional meeting of the BLG Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals in autumn 1998.

Establishment and operation of reception facilities including funding mechanisms

5.15 The Committee noted that the SPI Working Group, during FAL 25 (30 June to 4 July 1997) considered the draft report of the Correspondence Group which analysed the returns of the questionnaire on the establishment and operation of reception facilities including funding mechanisms (MEPC/Circ.314) and information provided by IAPH (FAL 25/12/2, FAL 25/12/2/Corr.1 and MEPC 40/5/5, annex 1)

5.16 The Committee agreed with the proposal of the SPI Working Group that a revised chapter 11 of the Comprehensive Manual on Port Reception Facilities be developed by the Correspondence Group using the outline in MEPC 40/5/5, annex 2. The Committee instructed the Correspondence Group to submit the revised chapter 11 to MEPC 42 for consideration and approval and to FAL 26 for information.

Outcome of FAL 25

5.17 The Committee was informed of the outcome of FAL 25 (30 June to 4 July 1997) and:

- .1 endorsed the proposal of FAL to include 'APELL' in the Recommendations on the Safe Transport of Dangerous Cargoes and Related Activities in Port Areas as a supplement;
- .2 noted that FAL approved FAL.6/Circ.5 which discusses communications between maritime administrations and port/terminal authorities;
- .3 noted that the FAL welcomed the offer of IAPH to not only collect information from their member ports on assessment methodology and systems in use and make it available, on a country-by-country basis, to FAL 26, but also to continue its work on revising their guidance document, taking into consideration the comments made by FAL; and
- .4 noted that FAL agreed to undertake work to standardize and harmonize ship's certificates using those appended to the 1988 Protocols to the SOLAS and the Load Line Conventions as a basis for the work.

5.18 The Committee noted that, in considering matters related to the ship/port interface, FAL 25 recalled that, following an extensive exchange of views, FAL 24 had reached an understanding as to the role of the SPI Working Group coming under its aegis *vis-à-vis* that Group's responsibilities on maritime safety and pollution prevention and response matters, which, as decided by the MSC and MEPC respectively, should be referred to these Committees for consideration (FAL 24/19, paragraph 12.23). The Committee endorsed the agreement of FAL 25 that, in order to enable it to perform its supervisory function, the work of the SPI Working Group should be channelled through the FAL Committee; this arrangement should not be construed as inhibiting the group from directly reporting to the MSC and MEPC on matters fully under their responsibility. On matters of common interest, the Committees should be invited to act in conjunction.

5.19 The Committee noted the work programme of the SPI Working Group, as approved by FAL 25 (FAL 25/19, annex 7)

6 FOLLOW-UP ACTION TO UNCED

6.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/6, MEPC 40/6/1 and MEPC 40/6/2 (Secretariat), MEPC 40/INF.5 and MEPC 40/INF.6 (WWF) and MEPC 40/INF.23 (Secretariat).

1998 International Year of the Ocean

6.2 The Committee noted that the UN General Assembly, by resolution 49/131 of 19 December 1994, declared 1998 as the International Year of the Ocean. The principal aim of the Year is to raise greater awareness of the ocean, including maritime safety and protection of the marine environment through appropriate activities of Governments and specialized agencies of the United Nations system. This is also regarded as follow-up to UNCED. In this connection, the Committee recalled that the UNGA resolution was reported to the Council by C/ES.18/18(a)/Add.1 of 9 October 1995.

6.3 The Committee, as IMO's focal point for follow-up to UNCED, noted that the following IMO activities would be associated with the Year:

- .1 Workshop on Waste Management and Marine Pollution Prevention in Southern and Eastern Africa in Cape Town in April 1998;
- .2 Maritime Search and Rescue (SAR) Conference in Australia in 1998. The Conference will mark the completion of the global SAR Plan which would greatly enhance safety at sea; and
- .3 Regional Workshop on the Protection of Marine Environment from Shipping Operations in Australia in 1998 (a joint activity with the Government of Australia).

6.4 The Committee also noted a number of other activities are also under preparation in IMO to observe the Year. For example, the Secretary-General plans, in connection with the 50th anniversary of the IMO Convention, to organize an exhibition at IMO Headquarters in March 1998 to underline the role of IMO in respect of the use and protection of the oceans. In addition, IMO would co-operate with other UN agencies to organize several joint activities as contributions of the UN system to the Year, such as:

- .1 International Symposium on Marine Pollution in Monaco in 1998 with IAEA as lead agency; and
- .2 UN Ocean Atlas with FAO as lead agency.

6.5 Taking into account that Governments would play a major role in raising greater awareness of the ocean during the Year, the Committee considered a draft Assembly resolution on the Year recommending Governments of IMO Member States to organize appropriate activities to observe the Year and to ensure that the importance of maritime safety, environmental protection and the role of IMO are highlighted in such activities. After an exchange of views, the Committee agreed to the draft Assembly resolution, which is set out at annex 2, for submission to the twentieth session of the Assembly for adoption.

Application of the precautionary approach

6.6 The Committee recalled that, at MEPC 37, it considered and adopted resolution MEPC.67(37) on Guidelines on incorporation of the precautionary approach in the context of specific IMO activities, taking into account principle 15 of the Rio Declaration. The Guidelines were adopted "on an interim basis until further experiences with their application has been gained".

6.7 The Committee recalled further that the IMO Assembly, at its 19th session, considered and adopted resolution A.832(19) on Follow-up action to UNCED 1992, the draft of which was submitted by the Committee. The Assembly resolution called on the Committee, in co-operation with other IMO bodies, to consider and submit the Guidelines on incorporation of the precautionary approach to the twentieth session of the Assembly.

6.8 In this regard, the Committee noted that the 1996 Special Meeting to the London Convention agreed to include the application of the precautionary approach as a general obligation under article 3 of the 1996 Protocol to the London Convention. It was further noted that the Conference on Air Pollution agreed to refer to the precautionary approach in the preambular paragraph of the 1997 Protocol. However, significant progress has not been made with regard to the application of the precautionary approach in the context of specific activities.

6.9 During the discussion, it was suggested that a draft Assembly resolution which calls for incorporating the precautionary approach fully into the activities of IMO should be prepared. After an exchange of views, the Committee agreed to the following points:

- .1 the Committee should continue to consider and apply, as appropriate, the precautionary approach in its work;
- .2 other Committees of IMO are invited to consider and apply, as appropriate, the precautionary approach in their work, and provide comments to the MEPC on the Guidelines adopted by resolution MEPC.67(37);
- .3 the precautionary approach should not be considered in isolation of other IMO practices, including resolutions A.500 and A.777 and the "polluter pays" approach as reflected in principle 16 of the Rio Declaration should also be taken into account; and

- .4 more experience in application of the precautionary approach in IMO is necessary before a draft Assembly resolution could be developed.

6.10 The Committee decided to keep the matter under review, leave the work of developing a draft Assembly resolution on precautionary approach to a future session of the MEPC, and instructed the Secretariat to report the situation to the twentieth session of the Assembly.

6.11 The Committee agreed that other relevant activities of IMO, such as Formal Safety Assessment and its effect on IMO's future activities dealing with all the issues, should be considered in conjunction with precautionary approach.

UNGA resolution on the Global Programme of Action

6.12 The Committee recalled that MEPC 38 had a preliminary exchange of views on the draft UN General Assembly resolution on institutional arrangements for the implementation of the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities. The initial view was that IMO's involvement should be limited to MARPOL 73/78 and other IMO instruments as appropriate and the secretarial function of the London Convention, 1972, and that such services should be rendered with the existing personnel and financial resources of IMO.

6.13 The Committee noted that the UN General Assembly, at its fifty-first session in December 1996, had adopted, by resolution 51/189, the institutional arrangements for the implementation of the GPA. The UNGA resolution calls upon Governments to take action in the governing bodies of relevant UN agencies so that to ensure the development of a clearing house mechanism with respect to a number of pollution sources categories, and IMO was called upon to develop a clearing-house mechanism for oils (hydrocarbons) and garbage (litter) in the marine environment.

6.14 The Committee noted that the role and responsibility of a "clearing house" in relation to substances entering the marine environment include the collection and distribution through computerized information channels of relevant data on their input, assessment of risks to human health and marine life, as well as preventive and mitigative measures that could be taken. It was recognized that Member States of each UN agency as mentioned in the UNGA resolution, including IMO, would have to make a decision on whether or how to undertake such additional responsibilities, since the role and responsibility of a "clearing house" would clearly require additional financial and personnel resources.

6.15 In this connection, the Committee noted that UNEP is the Organization designated by the UN as the Secretariat for the GPA and that the twentieth session of the IMO Assembly would consider a Note by the Secretary-General on the UNGA resolution on institutional arrangements for GPA (A/20/11/1). This Note, which was issued following a letter from the Executive Director of UNEP, stated that no provision in IMO has been made for the role and responsibility requested by the UNGA resolution, if IMO is to undertake such functions, additional resources, in the form of one technical officer and one support staff, would clearly be required. The Committee further noted that the seventy-eighth session of the Council in June this year approved a Zero-nominal growth budget for the next biennium and this means a 5% cut in real terms taking inflation and other factors into account.

6.16 During the course of discussion, the observer from UNEP stated that the GPA is to be implemented in a cost-effective manner. He mentioned that the Netherlands is to host a co-ordination unit in the Hague for the clearing-house mechanism and hoped that IMO would respond favourably to

the call of the UNGA resolution to set up a clearing-house mechanism for oils (hydrocarbon) and litter in the marine environment.

6.17 The Committee agreed that IMO should take the tasks of developing a clearing-house mechanism for oils (hydrocarbon) and litter in the marine environment as IMO's contribution to the implementation of the GPA. Recognizing the fact that additional financial resources is clearly needed since no provision has been made in IMO's budget for the project and it is for the Council and the Assembly to consider financial arrangements, the Committee decided to request Members to brief their delegates attending the twentieth session of the Assembly.

Special Session of the UN General Assembly on implementation of Agenda 21

6.18 The Committee noted that the Special Session of the United Nations General Assembly, for the purpose of an overall review and appraisal of the implementation of Agenda 21, was held in New York from 23 to 27 June 1997, five years after Agenda 21 was adopted by UNCED in 1992. The Special Session adopted a comprehensive document "Programme for the Further Implementation of Agenda 21", reaffirming the principles set forth in Agenda 21 and stressing that the institutional framework outlined in Chapter 38 of Agenda 21 and determined by the UN General Assembly in its resolution 47/191 and other relevant resolutions, including the specific functions and roles of various organizations within and outside the UN system, will continue to be relevant in the period after the Special Session of the UN General Assembly.

6.19 In this connection, the Committee also noted the decision of the UN Special Session that the next comprehensive review of progress achieved in the implementation of Agenda 21 by the UN General Assembly will take place in the year 2002, five years from this Special Session of the UN General Assembly.

6.20 After discussion, the Committee reaffirmed its role as Focal Point in IMO in follow-up to UNCED. The progress made by the Committee and other bodies in IMO in implementation of Agenda 21, such as application of the precautionary approach, implementation of the Global Programme of Action and the activities in the International Year of the Ocean, will be reported to the Commission on Sustainable Development (CSD) as appropriate.

Other relevant papers

6.21 The Committee noted the two information papers submitted by WWF, namely MEPC 40/INF.5 on Monitoring techniques for a shipping PRTR and MEPC 40/INF.6 on Legislative framework governing operational discharges from shipping. The Committee appreciated WWF for providing the Committee with such valuable information and requested Members to take the information into account in their work as appropriate.

7 IDENTIFICATION AND PROTECTION OF SPECIAL AREAS AND PARTICULARLY SENSITIVE SEA AREAS

7.1 The Committee had before it the following documents MEPC 40/7 and MEPC 40/7/Add.1 (Cuba), and MEPC 40/7/1 (Intertanko)

7.2 The Committee recalled that the proposal of designating the Archipelago of Sabana-Camagüey as a Particularly Sensitive Sea Area (PSSA) was considered by the Committee at its thirty-eighth

session. The Committee also recalled that the Committee at that session had agreed to the proposal in principle and requested the delegation of Cuba to submit additional information, including clear delineation of the area to be designated and measures to be undertaken to protect it prior to final approval.

7.3 The Committee noted that the delegation of Cuba had submitted additional information to this session in response to the request by the Committee at its thirty-eighth session and in accordance with resolution A.720(17) on Guidelines for the designation of special areas and the identification of particularly sensitive sea areas.

7.4 The delegation of Cuba, in presenting documents MEPC 40/7 and MEPC 40/7/Add.1, informed the Committee of the ecological, socio-economic, cultural, scientific and educational importance of the area and provided information on the protection measures currently in place for the area.

7.5 The delegation of the United States accepted the co-ordinates contained in paragraph 2 of MEPC 40/7 as providing an outer limit to the proposed PSSA. However, it did not accept the characterization contained in paragraph 2.1 of MEPC 40/7 that the baseline was constituted in accordance with international law.

7.6 The Committee, in recognizing the need to have further information on the measures in place to protect the area from shipping-related pollution, requested Cuba to submit such information to the forty-first session of the MEPC.

7.7 The Committee thanked the delegation of Cuba for the additional information provided and agreed to designate the Archipelago of Sabana-Camagüey as a Particularly Sensitive Sea Area as outlined in MEPC resolution 74(40), attached as annex 3. The delegation of the United States reserved its position.

Review of resolution A.720(17) on Guidelines for the designation of special areas and the identification of Particularly Sensitive Sea Areas

7.8 The Committee recalled that the Committee at its thirty-sixth session agreed to set up a Correspondence Group on Particularly Sensitive Sea Areas, co-ordinated by FOEI.

7.9 The Committee noted that the Correspondence Group had not reported back to the Committee, and agreed to resume the work of the Group, co-ordinated by Australia^{*}, as set out in the revised terms of reference contained in annex 7.

Report on reception facilities

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7.10 The observer from INTERTANKO, in introducing document MEPC 40/7/1, informed the Committee that since this document was submitted, INTERTANKO had been made aware of inaccuracies contained in the data annexed to the submission.

7.11 Most of the delegations, whose ports had been mentioned in the INTERTANKO document, advised the Committee that the information was incorrect.

7.12 The Committee recalled that MARPOL 73/78, Article 11, obliges States to provide detailed information on reception facilities and that the annexes contain requirements to report any inadequacies, and that the MEPC had developed formats for reporting any inadequacy. It was generally agreed that ships have to be provided with information on the capacity of reception facilities.

7.13 The Committee decided to consider the problems of the inadequacy of reception facilities at its next session.

8 INTERPRETATION AND AMENDMENTS OF MARPOL 73/78 AND RELATED CODES

8.1 Under this agenda item the Committee had before it the following documents: MEPC 40/8/1 (Secretariat) MEPC 40/8/2 (INTERTANKO), MEPC 40/8/3 (Netherlands), MEPC 40/8/4 (Germany), MEPC 40/8/5 and MEPC 40/8/5/Corr.1 (English only) (Japan) and MEPC 40/8/6 (Republic of Korea). MEPC 40/8 (Secretariat) was considered under agenda item 13.

Further clarifications on regulation I/13(3)(b) and its unified interpretation

8.2 INTERTANKO, in its submission MEPC 40/8/2, drew the attention of the Committee to the need to expand the exceptions for the SBT tankers to ballast cargo tanks given in regulation 13(3)(b) and related unified interpretations, i.e. in the cases of loading and unloading the arms are not high enough. The Committee agreed in principle, to extend the interpretation to cover such cases and referred the proposed interpretation to the drafting group on interpretations and amendments. Having received the report of the drafting group (MEPC 40/WP.5), the Committee approved the interpretation, the text of the amendments to the unified interpretation 4.1.1 is set out at annex 4.

8.3 In agreeing to the extension of the interpretation, the Committee also agreed to urge the ports to provide loading/unloading facilities so that tankers visiting them do not have to resort to ballasting when loading or unloading.

Possibilities of requiring mandatory disposal of ship generated waste (MEPC 40/8/3)

8.4 The Committee considered the question raised by the Netherlands (MEPC 40/8/3) with regard to a port State requiring mandatory disposal of ship generated wastes, when the quantity and storage of wastes on board ship are such that the ship would have to discharge wastes before reaching the next port of call.

8.5 A number of delegations expressed the view that port States have the right to require ships visiting them to discharge waste to a reception facility when reasonable and justifiable, and that many of them do have national legislation to that effect. Their view that there is no need to amend MARPOL 73/78 was accepted by the delegation of the Netherlands.

Revision of Annex IV of MARPOL 73/78

8.6 Having received the report of the Correspondence Group on the revision of Annex IV of MARPOL 73/78 (MEPC 40/8/4), the Committee recalled that the purpose of this exercise was to identify, firstly, the problems which have resulted in the Annex not entering into force and, secondly, what could be done to remedy the situation.

8.7 With regard to the points raised in the Correspondence Group report, there is a need to review and revise the recommendation on international standards and guidelines for performance tests for sewage treatment plants contained in resolution MEPC.2(VI), which was adopted in 1976.

8.8 The Committee was informed by the Chairman of SC 2 of ISO/TC 8 that ISO could undertake to review the effluent standards and guidelines, however, it would need a volunteer to conduct the task at the next meeting of ISO/TC 8/SC 2, which is planned to be held in June 1998 in Portugal. The Chairman of SC 2 requested that Members of MEPC consult with the relevant manufacturers and encourage them to participate in the SC 2 meeting.

8.9 The Committee noted the document prepared by the Secretariat (MEPC 40/8/1), detailing the procedures used in adopting amendments to other Annexes of MARPOL 73/78 and agreed to take the information into account when the Committee is ready to discuss how to amend Annex IV.

8.10 The Committee agreed to have a substantive discussion on the revision of Annex IV at its forty-second session.

8.11 Noting that 66 States with a combined tonnage of 41.46% have currently acceded to Annex IV and that this percentage has not increased over the last years, the Committee decided to circulate a short questionnaire to establish the reason why many Member States with notable tonnage have not been prepared to accede to Annex IV. The results of this questionnaire could offer an indication of the value of Annex IV in its present form, as well as an indication as to which direction revision is really necessary. The Committee requested the correspondence group on Annex IV to continue its work and submit an interim report to the forty-first session and a full report to the forty-second session.

Review of oil classification in terms of the application of regulations on oil tankers

8.12 The Committee received a proposal from Japan to separate persistent oil from other product oils (MEPC 40/8/5 and MEPC 40/8/5/Corr.1, the latter in English only).

8.13 The Committee agreed that, since MEPC 41 would be held before BLG 3, instructions to BLG on this issue could be worked out at that session. The Committee invited the Members to submit their comments to MEPC 41. The Japanese delegation undertook to submit further information and proposal to MEPC 41 taking into account the Guidelines on the Organization and Method of Work of the Committee.

Clarification of Annex V of MARPOL 73/78

8.14 The Republic of Korea pointed out in document MEPC 40/8/6 that the clarification given in the Garbage Record Book of Annex V of MARPOL 73/78 does not cover operational wastes as such, according to the definition given in paragraph 1.7.10 of that Annex. However, there remain many kinds of waste not categorized such as soot, scraped paint and cargo residue and proposed that, for the purpose of discharge or incineration of wastes on board ships, they should be appropriately categorized. The Committee discussed the Korean proposal and a number of delegations supported it, expressing the preference for a solution to this problem by interpretation, rather than by formal amendment to the Garbage Record Book. The Committee referred this draft interpretation to the Drafting Group on interpretation and amendments.

8.15 Having received the report of the Drafting Group, the Committee was informed that the Drafting Group (MEPC 40/WP.5), in the course of its deliberation, recognized that the proposed clarification would mean that the concept of wastes categorized by their origin, such as "operational" wastes, could be mixed with that of wastes categorized by their nature, as presently described in items 3 and 4 of paragraph 3 of the Appendix to Annex V. This might entail that discharge requirements are applied to operational wastes which are not presently subject to such requirements under Annex V of MARPOL 73/78.

8.16 The delegation of the Republic of Korea therefore undertook to submit again to MEPC 41 the draft interpretation revised to take into account the problem pointed out by the Drafting Group.

9 ADOPTION OF AMENDMENTS TO ANNEX I (REGULATION 10 AND REGULATION 25A)

Regulation 10 and regulation 25A

9.1 The Committee considered document MEPC 40/9, submitted by the Secretariat, on amendments to regulation 10 of Annex I, the designation of the North West European waters as a special area, and the addition of regulation 25A, on the intact stability of oil tankers, which had been approved by MEPC 39 and, reconfirmed their approval in principle and agreed that the amendments, if adopted on Thursday, 25 September, could enter into force on 1 February 1999. The Committee referred the proposed amendments to a drafting group, under the chairmanship of Mr. A.P. Burgel (Netherlands) for final elaboration.

9.2 The Committee, having received the report of the Drafting Group (MEPC 40/WP.5) adopted the proposed amendments to regulation 10 and new regulation 25A of Annex I to MARPOL 73/78 by resolution MEPC.75.(40) on Thursday, 25 September 1997 as set out at annex 5.

Unified Interpretation of the expression "the worst possible conditions of cargo and ballast loading consistent with good operational practice" in regulation 25A(2)

9.3 The Committee considered and approved the interpretation of the expression "the worst possible conditions of cargo and ballast loading consistent with good operational practice" in regulation 25A(2), as prepared at MSC 68 (MEPC 40/9/1). The text of the interpretation is set out at annex 4.

10 HARMFUL AQUATIC ORGANISMS IN BALLAST WATER

10.1 The Committee approved the report of its Working Group on Ballast Water (MEPC 40/10), which reflected the results of its meeting held during MEPC 39 (MEPC 40/10).

10.2 The Chairman of the Committee recalled the main conclusions reached so far by the Committee with a view to minimizing the risks of introducing harmful aquatic organisms and pathogens with ballast water and sediment discharges from ships. In the light of these conclusions the Chairman instructed the Working Group on Ballast Water to take action during this session in preparing a draft resolution on ballast water for consideration and adoption by the twentieth IMO Assembly in November this year with a view to providing additional emphasis on the need for appropriate ballast water management procedures. The Working Group should further provide advice on to the Secretariat managerial and technical issues in relation to a GEF Project that has very recently been approved to assist developing countries in identifying and removing barriers to the effective management and control of ships' ballast water. In addition, the preparation of a circular enquiring on the status of provisions adopted by national administrations with a view to reducing the risks of introducing harmful aquatic organisms and pathogens with ballast water and sediments should be considered.

10.3 In carrying out the above tasks, the Working Group was requested to take account of the following documents submitted to this session for consideration under this item: MEPC 40/10/1 (Argentina), MEPC 40/10/2 (Secretariat), MEPC 40/10/3 (Australia), MEPC 40/10/4 (Brazil), MEPC 40/10/5 (ICCL), MEPC 40/10/6 (Norway), MEPC 40/INF.7 (Australia), MEPC 40/INF.10 (Secretariat), MEPC 40/INF.12 (IACS), MEPC 40/INF.18 (United States) and MEPC 40/INF.25 (Secretariat).

10.4 Towards the conclusion of the session, the Chairman of the Working Group on Ballast Water, Mr. D. Paterson (Australia) advised the Committee of a work plan prepared by the Working Group (MEPC 40/WP.12) on a time schedule envisaged until legally binding provisions on ballast water and implementation guidelines thereto could be adopted by a conference, as well as of results and progress made in response to the instructions set out in paragraph 10.2 above.

10.5 The Committee approved the draft Assembly resolution on the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (MEPC 40/WP.11) for onward submission to the twentieth Assembly, as set out in annex 6.

10.6 The Committee noted that informal consultations have been held with a representative of UNDP and a number of IMO Member States, particularly from developing countries, concerning the implementation of the GEF Project mentioned above.

10.7 The Committee considered the draft work programme of the Working Group (MEPC 40/WP.12) and agreed to the schedule as set out in the programme.

10.8 A report of the Ballast Water Working Group reflecting the outcome of its discussions held during MEPC 40 will be tabled for consideration at MEPC 41.

11 HARMFUL EFFECTS OF THE USE OF ANTI-FOULING PAINTS FOR SHIPS

11.1 The Committee had before it the following documents: MEPC 40/11 and MEPC 40/11/3 (Netherlands), MEPC 40/11/1 (FOEI), and MEPC 40/11/2 (CEFIC).

11.2 The Committee recalled its decision, at the thirty-eighth session, to establish a Correspondence Group for the reduction of the harmful effects of the use of anti-fouling paints from ships including TBT, co-ordinated by the Netherlands.

11.3 The Committee also recalled that at its thirty-ninth session, the leader of the Correspondence Group provided an oral report on the progress of the Group's work and that it was agreed that the work of the Group be completed in accordance to the following time schedule:

- .1 submission of an interim report to MEPC 40; and
- .2 submission of a final report to MEPC 41.

11.4 The Committee noted the report of the Correspondence Group (MEPC 40/11) and, in particular, the following conclusions which are in line both with the terms of reference of the Group and the majority views expressed so far by the Members of the Group:

- .1 mandatory measures are required to reduce and eventually eliminate the use of anti-fouling paints containing organotin compounds;
- .2 development of an instrument enabling mandatory measures for anti-fouling paints should be developed as a matter of urgency; and
- .3 enforcement and enforceability of measures should be taken into account when developing such measures.

11.5 The leader of the Group concluded by thanking all the Members for their valuable contributions and informed that submissions continue to come in and that further contributions, such as those received from Brazil and Germany, will be taken into account in the preparation of the final report to MEPC 41.

11.6 The Committee noted the information contained in document MEPC 40/11/1, in particular:

- .1 the need to develop measures aimed at a total ban on the use of TBT in anti-fouling coatings within 5 years;
- .2 the need to develop measures aimed at a total ban on the use of all persistent organic pollutants in anti-fouling coatings within 10 years; and
- .3 the development of measures aimed at encouraging the development of non-polluting anti-fouling technologies with the ultimate aim of applications that are free of hazardous substances.

11.7 CEFIC, in introducing document MEPC 40/11/2, expressed its support for the work of the Correspondence Group, and the application of the precautionary approach to the Group's work as defined in IMO resolution MEPC.(67)37. The representative from CEFIC informed the Committee of the ongoing CEPE/EC Project "use of more environmentally friendly anti-fouling products" which is directly relevant to the Terms of Reference of the Correspondence Group (specifically item 4) and applies the precautionary approach making specific reference to the need of environmental impact assessments and risk analysis in any decision making process. The Committee noted that the project is co-ordinated by a steering group consisting of members from the EC, Sweden, UK, Greece, CEPE and IMO Secretariat. The Committee also noted that Phase 1 of the project had begun and includes the following:

- .1 establishment of an inventory of active substances used in anti-fouling products available in the European Union which includes a hazard assessment for each substance;
- .2 production of a report describing the different classes of anti-fouling products available in the EU; and
- .3 a working computer model to derive the Predicted Environmental Concentration for active substances used in anti-fouling paints.

11.8 The delegate from the Netherlands in introducing MEPC 40/11/3, drew attention to the draft proposal for the revision and updating of the terms of reference attached at annex 1 to the document, which had been prepared based on comments received from the members of the Correspondence Group.

11.9 The Chairman invited the Committee to consider whether the terms of reference of the Correspondence Group needed to be reviewed and suggested that the version contained in annex 1 of document MEPC 40/11/3 be taken as a basis for comments.

11.10 Norway stressed that, in view of the extensive research which has already been conducted, focus should now be placed on the development of alternative anti-fouling systems as opposed to concentrating on reviewing ongoing research.

11.11 Norway, supported by a number of delegations, expressed the need to bring forward the banning of TBT paints and other anti-fouling systems which are harmful to the marine environment from ten years to five years. Another delegation informed the Committee of its support for the total ban on TBT containing anti-fouling paint systems.

11.12 The Australian delegation reminded the Committee of the important role played by anti-fouling paints in preventing the transfer of unwanted aquatic organisms on hulls of ships.

11.13 The Committee agreed to modify the terms of reference as set out in annex 7 to this report. Recognizing the large amount of work which needs to be done, the Committee agreed that the final report of the Correspondence Group be submitted to MEPC 41 and that a working group on this issue be established at MEPC 42.

12 PROMOTION OF IMPLEMENTATION AND ENFORCEMENT OF MARPOL AND RELATED CODES

12.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/12 (Japan), MEPC 40/12/1 (P & I Associations), MEPC 40/INF.28 (Canada).

Accelerated replacement of the existing single hull tankers with tankers of double hull or equivalent

12.2 The Committee noted document MEPC 40/12, submitted by Japan, which referred to recent tanker accidents and informed the Committee that the Japanese Government has encouraged its shipowners to replace single hull tankers with tankers of double hull design without awaiting the timescale prescribed in regulation 13G of MARPOL 73/78, and urged Members Governments of IMO to do the same.

12.3 Several delegations expressed support for the Japanese proposal while other delegations expressed caution as such a move may result in some countries fleets being disadvantaged.

Sanctions for illegal discharges under MARPOL

12.4 In presenting document MEPC 40/12/1, the representative of the P & I Associations informed the Committee that the document was submitted on request of the Legal Committee as the information and views of the P & I Clubs would be essential to produce a comprehensive assessment of the situation.

12.5 The Committee, recalling its discussion at MEPC 39, that some delegations suggested that the P & I Clubs should discontinue covering sanctions or fines, etc., for illegal discharges under MARPOL, and decided to await the outcome of LEG 76 on this issue.

Visibility limits of spilled oil sheens

12.6 The Committee took note of the information contained in document MEPC 40/INF.28, submitted by Canada.

13 POLLUTION PREVENTION EQUIPMENT UNDER MARPOL

13.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/8 (Secretariat), MEPC 40/INF.13 (United States), MEPC 40/18/7 and MEPC 40/INF.20 (The Netherlands) and MEPC 40/INF.29 (United Kingdom).

Amendments to the Standard Specification for Shipboard Incinerators

13.2 The Committee noted that although MEPC 40/8 was issued under agenda item 8, it was more suitably addressed under this item.

13.3 The Committee recalled that MEPC 39 had agreed in principle to the amendments recommended by DE 40 and it was expected that the amended version of the Standard Specification for Shipboard Incinerators would be adopted at this session of the Committee.

13.4 The Committee, noting that the major change of the revised text of the Standard Specification as appeared in document MEPC 40/8 is to increase applicable capacity of the incinerator plants from 1160kW to 1500kW and the rest are mainly editorial improvements, referred the revised Standard Specification to a drafting group to review and produce a clean text together with an MEPC resolution to adopt it, taking into account the comments made at the plenary.

13.5 After having received the report of the Group (MEPC 40/WP.7 and its Corr.1), the Committee noted that the two operative paragraphs of the draft MEPC resolution had been revised to reflect the views agreed at plenary. The first operative paragraph made clear that the revised text of the Standard Specification for Shipboard Incinerators would supersede the text contained in Appendix 2 to the Revised Guidelines for the Implementation of Annex V of MARPOL 73/78, and the second operative paragraph urged Governments to apply the Standard Specification when implementing Annexes V and VI of MARPOL 73/78.

13.6 The Committee also noted that, in light of the changes made to the two operative paragraphs of the draft MEPC resolution, there was no need to insert a cross reference in the Scope section of the

Standard Specification to regulation 16 of the new Annex VI. In order to allay the potential of confusion by members as to what substances are used for type approval tests only, in section A1.4 of the Standard Specification, the words "(Information for type approval tests only)" was added after "Waste Classification from Incinerator Institute of America" and the listings of Classes 0, 1, 3, 4, 5 and 6 wastes were deleted.

13.7 In this regard, the Committee recognizes that regulation 16 of Annex VI of MARPOL 73/78 contains the operative language as to what can and cannot be incinerated, whereas the Standard Specification for Shipboard Incinerators serves as guidance on the design, manufacture, testing and operating of shipboard incinerators.

13.8 The Committee further noted that the words "for the purpose of this Standard Specification" had been added at the end of paragraph 2.7 of the Standard Specification to cater for the comments made by the Ukrainian and Russian delegations.

13.9 After having considered the relevant issues, the Committee adopted resolution MEPC.76(40) on the revised Standard Specification for Shipboard Incinerators, as set out in annex 8.

Further development of pollution prevention equipment under MARPOL 73/78

13.10 The Committee noted the information papers on the outcome of research and development on pollution prevention equipment provided by the United States (MEPC 40/INF.13), the Netherlands (MEPC 40/INF.20 and MEPC 40/18/7) and the United Kingdom (MEPC 40/INF.29). The Netherlands proposed to place on the agenda of the Committee the item of standards, detection of oil content in the effluent and related matters.

13.11 After an exchange of views, the Committee agreed that the improvement in effectiveness and reliability of pollution prevention equipment under MARPOL 73/78, such as oily-water separators and oil content meters, is one of the high priority items and should be pursued further. With regard to putting the item back on the future work programme of the Committee, the Committee dealt with it under agenda item 18.

14 IMPLEMENTATION OF THE OPRC CONVENTION AND OPRC CONFERENCE RESOLUTIONS

14.1 Under this agenda item the Committee had before it the following documents:

MEPC 40/14 (Secretariat), MEPC 40/14/1 (Secretariat), MEPC 40/14/2 (United Kingdom), MEPC 40/14/2/1 (E&P Forum), MEPC 40/14/3 (Secretariat), MEPC 40/14/3/1 (Solomon Islands), MEPC 40/14/3/2 (New Zealand), MEPC 40/14/4 (Secretariat), MEPC 40/14/4/1 (Secretariat), MEPC 40/14/5 (Secretariat), MEPC 40/INF.4 (Secretariat), MEPC 40/INF.11 (United Nations Environment Programme), MEPC 40/INF.16 (Secretariat), MEPC 40/INF.17 (Secretariat), and MEPC 40/INF.26 (Australia)

14.2 The Committee approved the report of the Working Group's meeting at MEPC 39 (MEPC 40/14) recognizing that the Group's schedule of tasks and target dates for completion contained in Annex 3 of its report would be reviewed by the Working Group and included in its final report.

14.3 The Committee considered the interim report (MEPC 40/WP.3) of the Working Group which had begun work on 15 September under the chairmanship of Mr. T.F. Melhuish (Canada) recognizing that in keeping with past practice its final report would be circulated intersessionally for consideration at MEPC 41.

14.4 On the basis of this interim report the Committee reached the conclusions as reflected in the paragraphs below.

Emergency Preparedness/Response Aspects of the Carriage of Nuclear Material Under the INF Code

14.5 Consideration of results of work related to the INF Code carried out by the Working Group was undertaken under agenda item 15 and are reflected in paragraphs 15.15 to 15.17 below.

Guidelines for Facilitation of Response to an Oil Pollution Incident Pursuant to Article 7 and Annex of the OPRC Convention.

14.6 The Committee, recalling that it had approved the guidelines for facilitation of response to an oil pollution incident at MEPC 38, agreed on a draft Assembly resolution transmitting the guidelines to the Assembly for consideration and adoption. The text of draft resolution is shown in annex 9.

Development of a draft OPRC Protocol on Hazardous and Noxious Substances (HNS)

14.7 The Committee noted the verbal report of the Chairman of the Working Group on the development of a draft protocol on HNS and his view that despite the complexities of the task real progress was being achieved in preparing a clear basis for future consideration by the Committee.

15 INF CODE RELATED MATTERS

Background

15.1 Under this agenda item, the Committee had before it the following documents: MEPC 40/15, MEPC 40/15/2, MEPC 40/15/5, MEPC 40/14/3, MEPC 40/INF.4 (Secretariat), MEPC 40/15/1, MEPC 40/15/3, MEPC 40/14/3/1 (Solomon Islands), MEPC 40/15/4 (Ireland), MEPC 40/14/3/2 (New Zealand) and MEPC 40/INF.22 (Greenpeace International).

15.2 The Committee recalled that MEPC 39 had developed shipboard emergency plans for vessels carrying products subject to the INF Code. To complement this, the Committee had also developed a draft Assembly resolution adopting amendments to the INF Code which will require such plans to be carried on board ship and notification of an INF related incident. In addition MEPC 39 had considered proposals to provide every coastal State concerned with a copy of such plans but, as this was related to other issues such as *Prior Notification and Consultation* as well as the definition of *Concerned Coastal State*, it had been decided to defer making a decision until these other issues had been resolved.

15.3 The Committee noted that MSC 68 had endorsed the draft Assembly resolution on amendments to the IBC Code and the *Guidelines for Developing Shipboard Emergency Plans for Ships Carrying Materials Subject to the INF Code* and requested that MEPC 40 finalize the documents for submission to the Assembly in November 1997.

Progress Report to the twentieth regular session of the Assembly

15.4 The Committee noted that the part of the draft progress report, which is the subject of MEPC 40/15, on *the Review of the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships (INF Code)*, had been approved by MSC 68 following a modification to the layout so that it followed the structure of resolution A.790(19).

15.5 The Committee approved the progress report including the additions shown in the Secretariat paper MEPC 40/15/5, which were proposed by NAV 43, and instructed the Secretariat to finalize the progress report, including the actions taken at this session, for submission to the twentieth session of the Assembly in November 1997.

The Committee noted that MSC 68 had instructed the Secretariat to prepare draft amendments to SOLAS chapter VII for the purpose of making the INF Code mandatory as well as a draft text of the INF Code in mandatory formatted text. This text is to be considered by DSC and, if appropriate, revised for further consideration by MSC 69. The Secretariat informed the Committee that the draft revision to SOLAS would soon be available as DSC 3/7.

Prior Notification and Consultation

15.6 The Committee considered the two documents (MEPC 40/15/1 and MEPC 40/15/4) on this subject and recalled that, when this subject was discussed by NAV 43, the majority of delegates had restated their opposition to *Prior Notification and Consultation*.

15.7 In introducing its submission (MEPC 40/15/1) Solomon Islands emphasized that the proposal was not intended to interfere with the safe navigation or trade, nor was it intended to interfere with national energy policies. Instead, the intention was to facilitate the safe transport of INF Code materials and the protection of the environment. The Solomon Islands also expressed the opinion that the proposal was based on the *Precautionary Principle* and the *Polluter Pays Principle*.

15.8 Solomon Islands expressed the view that, whilst the role of the NAV Sub-Committee is to consider the practicalities of such a proposal, the MEPC should consider the underlying policy which was the basis of the request in the submission. In this respect, Solomon Islands considered that it was important to decide how the status of the *Concerned Coastal State* could be identified.

15.9 Ireland informed the Committee that the background to their submission (MEPC 40/15/4) stemmed from a concern about the traffic of INF materials through their coastal waters and, in developing its proposal, it had noted that, whilst some Member Governments wished to ban the trade altogether, others would like it to be unrestricted. As a result, Ireland was of the opinion that its proposal had taken a middle road in developing its proposal that vessels carrying INF materials should notify coastal States of their intention to do so.

15.10 Prior to general discussion on these two submissions, the representative from IAEA reported on the outcome of the *IAEA's Conference on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*. The complete statement of the representative of IAEA, which is shown at annex 10, included a reference to the fact that *Prior Notification* was not included in the Convention, being one of only two points on which consensus was not reached.

15.11 Many delegations recognized that the submission from Ireland was based on several years work and represented considerable progress in developing a solution which was based on a compromise of the various views previously expressed.

15.12 There was considerable support for the proposal by Ireland to require *Prior Notification* of the passage of INF vessels or cargoes through *Concerned Coastal States* as a means of facilitating that State's emergency response capability, though some delegations were of the opinion that this requirement need only apply to INF 3 ships. In support of the proposal, some delegations were of the opinion that *Prior Notification* would not impinge on either the freedom of navigation or the right of innocent passage.

15.13 However, several delegations were concerned that, if such a requirement were to be included in the INF Code, it may result in some States vetoing the transport of INF Code materials through the waters under their jurisdiction, ships carrying other forms of dangerous goods could be subject to the same restriction and the notification process might lead to interference by terrorists. One delegation expressed the view that, in contrast to the point made in paragraph 15.3.7 above, *Prior Notification* is in contradiction to UNCLOS with regard to freedom of navigation and right of innocent passage. The French delegation, supported by the delegation of the United Kingdom, expressed the view that, if prior notification were to be included, the mandatory status of the Code would have to be questioned.

15.14 The Committee, noting the different views expressed on the issue of prior notification and consultation, agreed that delegations should further work together to resolve this issue.

Shipboard emergency plans and associated Guidelines: the work of the OPRC Working Group

15.15 Recalling that it had charged the OPRC Working Group to consider emergency and preparedness and response aspects of the carriage of INF material, the Committee considered the following issues on the basis of an interim report of the Working Group (MEPC 40/WP.3) and took the following actions:

- .1 having recalled those amendments to the INF Code and the Guidelines for developing shipboard emergency plans, which were agreed at MEPC 39, it approved the text of two associated draft resolutions, as shown at annexes 11 and 12, for consideration by the Assembly;
- .2 the Committee agreed that the following editorial corrections should be made to paragraph 26 of the INF Code, and authorized the Secretariat to make any further editorial corrections to the amendments and Guidelines prior to submission to the Assembly:
 - "26 Every ship, after 1 July 1998, transporting materials covered by this Code should carry on board a shipboard emergency plan"
 - "27 Such a plan should be approved by the Administration based on the Guidelines developed by the Organization and written in a working language understood by the masters and officers. At a minimum, the plan should consist of:....."
3. Solomon Islands reserved its position on the use of the phrase "... based on the Guidelines" compared with "... in accordance with the Guidelines..." in relation to the consideration of the possible future mandatory status of the INF Code;

- .4 the Committee noted that the Working Group had not been able to reach consensus on a proposal to amend paragraph 1.6.3 of the Guidelines to include a requirement for the flag State to keep a copy of the plan and ensure that a copy is lodged with the IMO Secretariat in order to make it available to any Member State on request. However, it was also noted that the Group intended to consider this issue further during MEPC 41.

15.16 With regard to paragraph 27 of the proposed amendments to the INF Code, the Norwegian delegation expressed some concern on the need to approve shipboard emergency plans for all ships transporting INF Code materials, whilst accepting that ships carrying INF-3 materials should be required to have such plans. In addition the delegation pointed out that section 8 of the Code requires shipboard emergency plan for every ship anyway.

Shore-based emergency response plans

15.17 The Committee noted the Working Group's discussions on shore-based emergency response plans and the provision of shipboard emergency response plans to interested States which the Group would be considering further at MEPC 41.

Voyage Planning

15.18 The Committee noted that NAV 43 had developed a draft Assembly Resolution and Guidelines for voyage planning which will be considered further at NAV 44. NAV 44 will also continue to consider a reference to a resolution on Guidelines for Voyage Planning to be made in the INF Code.

15.19 In presenting its paper, MEPC 40/15/3, Solomon Islands emphasized that voyage planning is important for the safety of navigation, the safety of the ship and the protection of the environment and made a proposal for the amendment to the INF Code which would take this into account. In addition, Solomon Islands made the point that voyage planning is already carried out and, therefore, there should not be any objection to including the requirement for it in the INF Code.

15.20 Whilst there was some support for this proposal, the Committee agreed that it was premature to include such a requirement at this stage but it would be reconsidered once the NAV Sub-Committee had finalized the Guidelines on voyage planning.

Vitrified High-Level Radioactive Waste

15.21 The Committee recalled that Greenpeace had submitted an information paper on this subject to MEPC 39 (MEPC 39/INF.15) and another to MSC 68 (MSC 68/INF.2), but some delegations had supported the response by IAEA that *the paper was fundamentally flawed and could be easily misleading and therefore, considered that it would not be appropriate to take it into account when considering measures complementary to the INF Code.*

15.22 Further to this, the Committee noted the Greenpeace submission, MEPC 40/INF.22 which, it claimed, provided additional information on the safety of sea transport of vitrified high-level radioactive wastes in response to the points made by IAEA (MSC 68/15/4).

15.23 The Committee noted the information paper and the views expressed by the representative of IAEA who informed the Committee that the Greenpeace paper did not provide any new information and was misleading. Japan, with support from France and Russia, supported IAEA and reiterated its statement made at MSC 68, shown in paragraph 15.7.1, as reported by the Chairman.

Literature Study on specific hazards associated with maritime transport of flasks, and consequences of severe accident scenarios

15.24 The Committee recalled that it had agreed that an informal inter-agency group, comprising, *inter alia*, IMO, IAEA and UNEP should be established in order to evaluate the potential hazards of radioactive substances to the environment and that the initial task of this Group would be to conduct a literature review of the subject.

15.25 The Secretariat, in presenting MEPC 40/15/2, informed the Committee that this Group had been established and had developed some draft terms of reference, shown in MEPC 40/WP.4, to be used as a basis for the literature review. The Secretariat advised the Committee that the estimated cost of this review would be approximately US\$60-70K and that financial contributions to support it would be appreciated.

15.26 Whilst some concern was expressed that the draft terms of reference seem to be more extensive than originally envisaged, the Committee agreed that the review should initially focus on identifying and reviewing appropriate material and that an interim report should be made at the earliest appropriate time before any substantive evaluation is undertaken.

16 FORMAL SAFETY ASSESSMENT (FSA)

16.1 The Committee recalled that the joint MEPC/MSC Working Group on FSA had a joint meeting with the Human Element (HE) Working Group during MSC 68, the report of which was submitted as MEPC 40/16/1 with the associated *Interim Guidelines for the Application of FSA to the IMO Rule-Making Process (MEPC 40/16)*. Having noted that the HE aspects resulting from this meeting had been discussed under agenda item 5, the Committee considered those aspects pertinent to FSA.

16.2 The Chairman indicated that this was a complex subject but one that is both potentially powerful and beneficial to the IMO Rule-Making Process and urged members to familiarise themselves with the subject.

16.3 Having noted both the report and the Guidelines, the Committee:

- .1 approved the interim Guidelines for the application of Formal Safety Assessment (FSA) to the IMO Rule-Making Process and the draft MSC/MEPC Circular for the dissemination of the interim Guidelines (MSC 68/WP.13, annex 2, under cover of MEPC 40/16). Noting that MSC 68 had approved these interim Guidelines and the associated draft Circular, instructed the Secretariat to issue the MSC/MEPC Circular as soon as possible.
- .2 approved the *Standard Reporting Format* for reporting trial application of these *Interim Guidelines*, which is to be included in the MSC/MEPC Circular referred to in paragraph 16.3.1 above.
- .3 concurred with the MSC decision to approve the work of an intersessional correspondence group and its terms of reference (paragraph 55.3);

- .4 concurred with the MSC decision, upon the recommendation of the two Working Groups that they meet jointly again during MSC 69, and the Group's considerations with regard to the future of both Human Element and Formal Safety Assessment Working Groups (paragraph 55.4);
- .5 approved the Working Group's recommendation to expand the FSA Interim Guidelines, in order to clarify the incorporation of HE and to consider the mechanism by which they can be used within the IMO rule-making process. In this context, it was agreed that the Working Group should also consider the incorporation of the *Precautionary Approach* into the application of FSA, though it was suggested that FSA was a reflection of the scientific application of this very concept. The Secretariat was instructed to bring this to the attention of the MSC.
- .6 approved those aspects of report of the two Joint Working Groups on their joint session during MSC 68 related to FSA.

16.4 The Committee noted that, as indicated in MEPC 40/16/3, the special presentation on FSA that was intended to be made during MEPC 40 had to be postponed. The UK offered to present an information paper to MEPC 41 describing the basis of a future presentation designed to provide an introduction to FSA with special emphasis being placed on its application to environmental aspects. The Committee welcomed this offer and agreed that, at MEPC 41, it would consider the possibility of holding a special session on FSA at MEPC 42.

Environmental indexing

16.5 The Committee recalled that, at MEPC 37, Norway had presented summary of a research project designed to provide a mechanism for the environmental indexing of ships. In presenting its paper MEPC 40/16/2, Norway elaborated on this system which, they indicated, provides criteria that can be used as basis for taxing system on ships in ports by their potential to cause pollution to the environment.

16.6 Whilst the Committee welcomed this initiative and the underlying principles of the system, it agreed that it was premature to take further action at this time. The Committee agreed that further consideration could be given to the details of the system, once Norway had reported the experiences gained in implementing it.

17 APPLICATION OF THE COMMITTEE'S GUIDELINES

17.1 The Committee noted that, as requested by MEPC 39, MSC 68 had finalized revision of the Guidelines on the Organization and Method of Work of the MSC and MEPC and their Subsidiary Bodies and that the revised Guidelines were circulated under cover of MSC/Circ.816 and MEPC/Circ.331, revoking the old Guidelines.

17.2 The Committee was informed that the Secretariat strictly applied the old Guidelines on the submission of documents. The Revised Guidelines would be applied for submission of documents to MEPC 41.

17.3 The Committee applied the revised Guidelines to the conduct of business in general at this session as seen in various parts of the report, and in particular when considering the proposed new work programme items.

18 FUTURE WORK PROGRAMME, INCLUDING THOSE OF SUBSIDIARY BODIES

18.1 The Committee had before it the following documents under this agenda item: MEPC 40/18 (Argentina), MEPC 40/18/1 (Germany), MEPC 40/18/2 and MEPC 40/INF.8 (United Kingdom), MEPC 40/18/3 (Greenpeace), MEPC 40/18/4 (Secretariat), MEPC 40/18/5 (Chairman) and MEPC 40/18/7 and MEPC 40/INF.20 (Netherlands). MEPC 40/18/6 (Brazil) was considered under agenda item 3.

Proposed items to be included in the work programme of the Committee

18.2 The Committee received the following proposals for inclusion in the work programme of the Committee:

MEPC 40/18/1	Germany	Manual on Shipboard Waste Management
MEPC 40/18/2	United Kingdom	Identification tagging of oil cargo residue and bunker fuel
MEPC 40/18/3	Greenpeace International	Application of MARPOL requirements to FPSOs and FSUs
MEPC 40/18/7	Netherlands	Standards for oily bilge water separators
MEPC 40/4/3	India	Flag State Implementation

18.3 In accordance with the Guidelines on the Organization and Method of Work of the Committee, the Chairman, with the assistance of the Secretariat, undertook a preliminary assessment of each proposed new work programme item *vis-à-vis* the criteria for general acceptance in accordance with paragraphs 5 to 7 of appendix 1 of the Guidelines, which were issued under cover of MEPC 40/WP.1.

18.4 It may be noted that, in the discussion on a proposal under agenda item 8, the Committee confirmed that, before a new item is included in the work programme, the item has a need for the measure proposed being documented and, in the case of proposals calling for new conventions or amendments to existing conventions, a compelling need must be demonstrated and economic and administrative implications of such measures assessed. A view was expressed that what is important is to demonstrate that there is a problem which has to be addressed and, should mandatory measures be agreed upon, then economic and social implications be assessed.

Manual on Shipboard Waste Management

18.5 The Committee agreed that for this subject, the compelling need is not applicable and, taking into account that a fair amount of work has already been done and although the priority given was low, agreed to finalize the development of the Manual at MEPC 42.

Identification tagging of oil cargo residue

18.6 The Committee agreed the need for this measure was well documented and priority should be high. The Committee agreed to place this in its future work programme, await the outcome of further studies including relevant cost/benefit analysis and full-scale tests and place this item on the agenda of MEPC 42.

FPSOs and FSUs

18.7 The Committee agreed that there is a need to consider the application of MARPOL requirements for FPSOs and FSUs with a high priority and placed this item on the agenda of MEPC 41. In this regard, the delegation of Australia stated that:

- .1 it does not disagree with the need to reconsider the application of MARPOL to FPSOs and FSUs, but it is concerned with the attempt by Greenpeace in its paper MEPC 40/18/3 to use two incidents on Australian FPSOs as justification or evidence for reconsideration of this issue; and
- .2 investigation of both incidents, while finding a need for improvements in design and operational management practices, clearly demonstrated they did not relate in any way to the application of MARPOL Annex I and should not have been used in this context.

Guidelines and specifications for oil filtering and monitoring equipment

18.8 The Committee noted the several information papers submitted on recent developments of oily water separators and monitors (MEPC 40/INF.13, MEPC 40/INF.20 and MEPC 40/INF.29). Some delegations felt that there is not enough justification for revising guidelines and specifications, however the Committee agreed to return to this issue at MEPC 42, to which the Netherlands delegation undertook to submit a paper.

Port State control on ISM Code matters

18.9 The Committee noted that this proposal had been overtaken by events in view of the fact that the agenda for FSI 6, as agreed by MSC 68, already has an item on port State control on ISM matters. The Committee was informed that the need for training of PSC officers on ISM Code matters was well recognized by both the Paris and Tokyo MoUs. The Committee was also informed that Japan, on behalf of members of the Tokyo MoU, intends to submit proposals on amendments to resolution A.787(19) on the issue.

Work programme for 1998/1999 and long-term work plan of the Committee

18.10 The Committee considered the work programme for 1998/99 for submission to the twentieth session of the Assembly, as prepared by the Chairman in consultation with the Secretariat in accordance with paragraph 14 of the Committees' Guidelines (MEPC 40/18/5). The Committee approved, with minor modifications, the work programme for 1998/1999, as set out at annex 13.

18.11 The same document contained in the annex the long-term work plan (up to 2004) of the Committee which was submitted to A 20, pursuant to resolution A.836(19). The draft plan, proposed to include planned activities of the Consultative Meeting of Parties to the London Convention, 1972, for which IMO provides the Secretariat function, and contained those of technical co-operative activities, thus providing all activities in the field of marine environment protection following the new programme and budget submitted by the Secretary-General to the Assembly. With deletion of 2.12 of specific subjects, the Committee approved the long-term work plan, as set out at annex 14 for submission to the Assembly.

Substantive items to be included in the Committee's agenda for the forthcoming three sessions

18.12 On the basis of the draft list of substantive items to be included in the Committee's agenda for MEPC 41, MEPC 42 and MEPC 43 (MEPC 40/WP.2), the Committee agreed on the list in the light of progress made during this session and various activities included in the list. The list is set out at annex 15.

Dates for MEPC 41 and MEPC 42

18.13 The Committee agreed to hold MEPC 41 from 30 March to 3 April 1998 and noted that MEPC 42 was tentatively scheduled to be held from 2 to 6 November 1998. The Committee noted that this restores the normal schedule of meetings, i.e. two meetings during a non-Assembly year and one during a year in which Assembly is held: all being held at approximately eight months intervals.

Work programmes of Sub-Committees

18.14 The Committee, noting the outcome of discussion of MSC 68 on the work programme of Sub-Committees (MEPC 40/18/4), approved the work programmes and agenda of the forthcoming sessions of the BLG, FSI and DSC Sub-Committees. The Committee noted that an intersessional meeting of the ESPH Working Group would be held in autumn 1998.

Simultaneous interpretation at the meetings of the OPRC Working Group

18.15 It was proposed that the OPRC Working Group should have simultaneous interpretation into Spanish and other working languages of IMO. A number of delegations supported the proposal, the Committee decided, however, in view of budgetary constraints, not to request the Council to have simultaneous interpretation at OPRC Working Group meetings.

19 ELECTION OF THE CHAIRMAN AND VICE-CHAIRMAN FOR 1998

19.1 In accordance with Rule 17 of the Rules of Procedure, the Committee undertook to elect its Chairman and Vice-Chairman for 1998. Neither the present Chairman, Mr. Pieter Bergmeijer (the Netherlands), nor the present Vice-Chairman, Rear Admiral Daniel Geraci (Argentina), was available for re-election.

19.2 By acclamation the Committee elected Mr. Michael Julian (Australia) as Chairman and, also by acclamation, Captain Sergio Wall (Chile) as Vice-Chairman.

20 ANY OTHER BUSINESS

20.1 Under this agenda item, the Committee had before it the following documents:

MEPC 40/20 (Secretariat), MEPC 40/20/1 (INTERTANKO), MEPC 40/2/2 (Republic of Korea), MEPC 40/20/3 and MEPC 40/INF. 2 (Secretariat), MEPC 40/INF.3 (Argentina), MEPC 40/INF.9 (United States), MEPC 40/INF.14 (Secretariat), MEPC 40/INF.15 (HELCOM), MEPC 40/INF.19 and MEPC 40/INF.21 (Republic of Korea), MEPC 40/INF.24 (Secretariat), MEPC 40/INF.27 (Australia and New Zealand) and MEPC 40/INF.29 (United Kingdom).

List of facilities in ports for reception of oily waste and chemical residues from ships

20.2 Document MEPC 40/20 requested the Committee to consider a proposal to:

- .1 transfer the information contained in MEPC 3/Circ.2 and MEPC 4/Circ.1, and any amendments thereto, to a database for reproduction as an IMO electronic publication (CD-ROM) and subsequent sale; and also
- .2 the discontinuation of the issuance of the lists of reception facilities for oil and chemical residues as hard copies.

20.3 Several delegates welcomed the initiative but felt that other options than CD-ROM should be put forward, for example the information could be transferred to a disk, or made available on the Internet. Some other delegations requested information on the cost of using CD-ROM, and how often it would be updated.

20.4 It was decided to make the information on facilities in ports for reception of oily waste and chemical residues from ships available on IMO's home page on the Internet from 1 January 1998, and the Secretariat was requested to submit a comprehensive paper on the matter to MEPC 41 to facilitate consideration of other electronic methods of disseminating the information.

Developing principles for charging users and cost of maritime infrastructure

20.5 The Committee was informed that document MEPC 40/29/1 (INTERTANKO) was also submitted to MSC 68 (MSC 68/22/10) for consideration, where it was considered by the majority of delegations to go beyond the scope and mandate of IMO. The Committee therefore only took note of the information submitted.

Prevention of pollution caused by pitting of oil tankers

20.6 The Committee noted the Republic of Korea's concern regarding oil pollution caused by cargo oil leaking through pitting holes in the bottom plates of oil tankers (MEPC 40/20/2 and MEPC 40/INF.19). However, since the problem of pitting is more a safety matter, the Committee referred these documents to the MSC for consideration.

Application for consultative status

20.7 The Committee had before it the application for the grant of consultative status from the European Portable Tank Association (EPTA).

20.8 The Committee established a small group, under the chairmanship of Mr. Michael Julian, (Australia), convened to consider the application in accordance with the Rules Governing Relationships with Non-Governmental International Organizations and the Guidelines on the Grant of Consultative Status (MEPC 40/WP.6). The Committee endorsed the recommendation from the small group that the application not be granted consultative status as it was viewed as neither being truly international, nor in a position to contribute directly to the work of IMO and that access to IMO through other organizations existed for them.

20.9 Therefore, the Committee decide to recommend to the Council that consultative status should not be granted to the European Portable Tank Association (EPTA) for the reasons reached by the group in their report to the Committee.

20.10 With regard to the application from the International Sailing Federation (ISF), the Chairman of the MEPC advised that not all the information requested by the Council had been received from that Organization for consideration by this session of the Committee. The Committee decided that any information received will be submitted at a future session, as appropriate.

Information papers

20.11 Under this agenda item, the Committee took note of the following information papers:

- | | |
|--|---|
| MEPC 40/INF.3 (Argentina) | - Solicitud de información de puntos de contacto de las Administraciones involucradas en acuerdos tripartitos |
| MEPC 40/INF. 9 (United States) | - Ship strikes of endangered northern right whales |
| MEPC 40/INF.14 (Secretariat) | - On course for cleaner oceans |
| MEPC 40/INF.15 (HELCOM) | - Information on the activities of the Helsinki Commission |
| MEPC 40/INF.21 (Republic of Korea) | - Thirteenth International Symposium on the Transport of Dangerous Goods by Sea and Inland Waterways (ISTDG 13) |
| MEPC 40/INF.24 (Secretariat) | - Environmental Award made to IMO |
| MEPC 40/INF.27 (Australia and New Zealand) | - Directory of Waste Reception Facilities in Australian and New Zealand ports |

Expression of appreciation

20.12 The Committee expressed appreciation to Mr. P. Bergmeijer for the excellent job he had done over the last five years as Chairman of the Committee since his election at its thirty-third session in October 1992. The Committee thanked him for the tremendous contribution he had made to its work

and to IMO in general. Mr. Bergmeijer had efficiently conducted the proceedings of the Committee and worked very hard to facilitate agreement over controversial issues, during which time a substantial quantity of complex and important instruments had been finalized, including the new Annex VI to MARPOL 73/78 on Prevention of Air Pollution from Ships. The Committee expressed its best wishes to him.

20.13 On the impending retirement from the Organization of Mr. B. Okamura, Senior Deputy Director of the Marine Environment Division, the Committee expressed appreciation for his invaluable contribution over many years as the focal point for the Secretariat duties in regard to the work of the Committee. His efforts and dedication had been truly outstanding. The Committee wished him wholeheartedly a long and happy retirement.

20.14 The Committee has also paid tribute to Cmdre (HCG) Syrigos, Head of the delegation of Greece, who would no longer be attending its sessions, and congratulated him on his promotion and wished him every success in his new duties.

ANNEX 1

AGENDA FOR THE FORTIETH SESSION, INCLUDING LIST OF DOCUMENTS

1 Adoption of the Agenda

MEPC 40/1		Provisional agenda
MEPC 40/1/1	Secretariat	Adoption of the agenda and draft timetable
MEPC 40/1/1/Corr.1	"	Corrigendum (revised timetable)

2 Status of Conventions

MEPC 40/2	Secretariat
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3 Bulk liquids and gases

MEPC 40/3	Secretariat	Report of the second session of the Sub-Committee on Bulk Liquids and Gases
MEPC 40/3/1	Norway	Comments on certain aspects of the BLG 2 report, tainting and carriage requirements for monostyrene
MEPC 40/3/2	Norway	Equivalent arrangements under MARPOL 73/78 and the IBC Code
MEPC 40/3/3	Secretariat	Outcome of MSC 68 concerning BLG 2
MEPC 40/3/4	Japan	Comments to the report of the second session of the Sub-Committee on Bulk Liquids and Gases
MEPC 40/3/5	ICS	The MARPOL Annex II Revision Process

4 Flag State implementation

MEPC 40/4	Secretariat	Outcome of FSI 5
MEPC 40/4/1		Report of the Correspondence Group
MEPC 40/4/2	Secretariat	Outcome of the sixty-eighth session of MSC
MEPC 40/4/3	India	ISM Code matters

5 Work of other bodies (MSC 68, C 78, etc.)

MEPC 40/5	Secretariat	Report of the seventy-fifth session of the Legal Committee
MEPC 40/5/1	Secretariat	GESAMP hazard evaluation procedures
MEPC 40/5/2	Secretariat	Outcome of DSC 2
MEPC 40/5/3	Secretariat	Outcome of the sixty-eighth session of MSC
MEPC 40/5/4	Secretariat	Outcome of the seventy-eighth session of Council
MEPC 40/5/5		Report of the SPI Working Group
MEPC 40/5/6	Secretariat	Reporting System for the SPI Working Group
MEPC 40/5/7	Secretariat	Harmonized IMO forms and certificates
MEPC 40/5/8	Secretariat	Establishment and operation of reception facilities, including funding mechanisms

6 Follow-up action to UNCED

MEPC 40/6	Secretariat	1998 International Year of the Ocean
MEPC 40/6/1	Secretariat	Application of the precautionary approach
MEPC 40/6/2	Secretariat	UN General Assembly resolution on the Global Programme of Action
MEPC 40/INF.5	WWF	Feasibility Study on the application of a Pollutant Release and Transfer Register (PRTR) to the Shipping Industry: Monitoring techniques for a shipping PRTR
MEPC 40/INF.6	WWF	Feasibility Study of the application of a Pollutant Release and Transfer Register (PRTR) to the Shipping Industry: Legislative framework governing operational discharges from shipping
MEPC 40/INF.23	Secretariat	Outcome of the Special Session of the United Nations General Assembly on implementation of Agenda 21

7 Identification and protection of Special Areas and Particularly Sensitive Sea Areas

MEPC 40/7	Cuba	Designation of the Sabana-Camaguey Archipelago as a particularly sensitive sea area
MEPC 40/7/Add.1	Cuba	Designation of the Sabana-Camaguey Archipelago as a particularly sensitive sea area
MEPC 40/7/1	Intertanko	Reception facilities

8 Interpretation and amendments of MARPOL 73/78 and related Codes

MEPC 40/8	Secretariat	Amendment of the Standard Specification for Shipboard Incinerators
MEPC 40/8/1	Secretariat	Revision of Annex IV of MARPOL 73/78
MEPC 40/8/2	INTERTANKO	Further clarification on regulation 13(3)(b) and its Unified Interpretation
MEPC 40/8/3	Netherlands	Possibilities to require mandatory disposal of ship generated waste
MEPC 40/8/4	Germany	Report of the Correspondence Group
MEPC 40/8/5	Japan	Review of oil classification in terms of the application of the regulations on oil tankers
MEPC 40/8/5/Corr.1	"	Corrigendum (English only)
MEPC 40/8/6	Rep. of Korea	Clarification of MARPOL Annex V

9 Adoption of amendments to Annex I (regulation 10 and regulation 25A)

MEPC 40/9	Secretariat	Amendments to regulation 10 and addition of new regulation 25A
MEPC 40/9/1	Secretariat	Outcome of MSC 68 (Interpretation of new regulation 25A of Annex I)

10 Harmful aquatic organisms in ballast water

MEPC 40/10		Report of the Working Group on Ballast Water convened during MEPC 39
MEPC 40/10/1	Argentina	Appearance of non-indigenous bivalves in the River Plate and its tributaries

MEPC 40/10/2	Secretariat	Project proposal on ballast water submitted to GEF
MEPC 40/10/3	Australia	International regulatory framework for ballast water management
MEPC 40/10/4	Brazil	Results of ballast water exchange tests using the dilution method
MEPC 40/10/5	ICCL	
MEPC 40/10/6	Norway	
MEPC 40/INF.7	Australia	Proposal for a ballast water management decision support system
MEPC 40/INF.10	Secretariat	Conservation and Sustainable Use of Marine and Coastal Biological Diversity
MEPC 40/INF.12	IACS	Ballast water exchange at sea
MEPC 40/INF.18	United States	Stemming the Tide: Controlling introduction of non-indigenous species by ship's ballast water
MEPC 40/INF.25	Secretariat	Report of the ICES/IOC/IMO Study Group on Ballast Water and Sediments

11 Harmful effects of the use of antifouling paints for ships

MEPC 40/11	Netherlands	Interim Report of the Correspondence Group
MEPC 40/11/1	FOEI	No reason to hesitate in banning TBT
MEPC 40/11/2	CEFIC	Comments on the Interim Report of the Correspondence Group submitted by the Netherlands (MEPC 40/11)
MEPC 40/11/3	Netherlands	Comments on the contributions to the Correspondence Group

12 Promotion of implementation and enforcement of MARPOL and related Codes

MEPC 40/12	Japan	Information on an oil pollution incident and proposal for accelerated replacement of existing single hull tankers with tankers of double hull or equivalent
MEPC 40/12/1	P & I Assoc's	Sanctions for illegal discharges under MARPOL

MEPC 40/INF.28 Canada Visibility limits of spilled oil sheets

13 Pollution prevention equipment under MARPOL

MEPC 40/INF.13 United States Information on research and development of oily-water separation by membrane ultrafiltration

14 Implementation of the OPRC Convention and OPPR Conference resolutions

[The agenda of the OPRC Working Group is issued as MEPC 40/14/1, annex 1: items on this agenda are listed in italics hereunder]

MEPC 40/14 Report of the OPRC Working Group

1 Adoption of the agenda

MEPC 40/14/1 Provisional agenda for the OPRC Working Group meeting during MEPC 40

2 Development of a draft Protocol on Hazardous and Noxious Substances

MEPC 40/14/2 United Kingdom Development of a draft Protocol on hazardous and noxious substances

MEPC 40/14/2/1 E&P Forum Application of OPRC to hazardous and noxious substances, including incidents arising from offshore installations

3 Emergency preparedness/response aspects of the carriage of nuclear material under the INF Code

MEPC 40/14/3 Secretariat IAEA Safety Guide: Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material

MEPC 40/14/3/1 Solomon Islands Development of measures complementary to the INF Code - The Shore-based Emergency Response Plan

MEPC 40/14/3/2 New Zealand Carrier and Coastal State Emergency Response Plans

MEPC 40/INF.4 Secretariat IAEA Safety Guide: Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material

4 Development and updating of manuals and guidelines

	MEPC 40/14/4	Secretariat	Development and Updating of Manuals and Guidelines
	MEPC 40/14/4/1	Secretariat	Draft Assembly resolution - Guidelines for facilitation of response to an oil pollution incident pursuant to article 7 and annex of the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990
	MEPC 40/INF.16	Secretariat	Guidance concerning chemical safety in port areas
5	<i>IMO Model Courses</i>		
	MEPC 40/14/5	Secretariat	Donor assistance related to the delivery of the OPRC courses
6	<i>Technical Co-operation (TC) activities related to marine pollution preparedness and response</i>		
7	<i>Any other business</i>		
	MEPC 40/INF.11	UNEP	Status of Ratification of Regional Agreements Negotiated in the Framework of the Regional Seas Programme
	MEPC 40/INF.17	Secretariat	Draft resolution of the meeting of the Contracting Parties to the Barcelona Convention for the Protection of the Mediterranean Sea against pollution
	MEPC 40/INF.26	Australia	SPILLCON'98, Australasia's 7th international oil spill conference
8	<i>Future work programme</i>		
9	<i>Consideration of report to the Committee</i>		
15	INF Code related matters		
	MEPC 40/15	Secretariat	Draft progress report on the review of the INF Code
	MEPC 40/15/1	Solomon Islands	Development of measures complementary to the INF Code and the augmentation and upgrading of the INF Code. Prior notification and consultation

MEPC 40/15/2	Secretariat	Specific hazards associated with maritime transport of flasks and consequences of severe accident scenarios
MEPC 40/15/3	Solomon Islands	Development of measures complementary to the INF Code and the augmentation and upgrading of the INF Code. Voyage Plans
MEPC 40/15/4	Ireland	Notification process
MEPC 40/15/5	Secretariat	Outcome of NAV 43: Progress report on development of measures complementary to the INF Code
MEPC 40/14/3	Secretariat	IAEA Safety Guide: Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material
MEPC 40/INF.4	Secretariat	IAEA Safety Guide: Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material
MEPC 40/INF.22	Greenpeace Int'l	Additional information and analysis concerning the safety of the sea transport of vitrified high-level radioactive waste
16	Formal safety assessment	
MEPC 40/16	Secretariat	Interim Guidelines for the Application of FSA to the IMO Rule-Making Process
MEPC 40/16/1	Secretariat	Report of the Joint Working Group on the Human Element and Formal Safety Assessment which met during MSC 68
MEPC 40/16/2	Norway	Criteria for environmental differentiating of ships
MEPC 40/16/3	Secretariat	Notification of the postponement of the Special session on Formal Safety Assessment (FSA) originally intended to be held during MEPC 40
17	Application of the Committees' Guidelines	
MEPC 40/17	Secretariat	Revision of the Guidelines

18 Future work programme, including those of subsidiary bodies

MEPC 40/18	Argentina	Simultaneous interpretation into Spanish and other working languages of IMO at meetings of the OPRC Working Group
MEPC 40/18/1	Germany	Manual on Shipboard Waste Management
MEPC 40/18/2	United Kingdom	Identification tagging of oil cargo residue and bunker fuel
MEPC 40/18/3	Greenpeace Int'l	Application of MARPOL requirements to FPSOs and FSUs
MEPC 40/18/4	Secretariat	Outcome of the sixty-eighth session of MSC
MEPC 40/18/5	Chairman	Work programme and long-term work plan of the Committee
MEPC 40/18/6	Brazil	Revision of COW specification
MEPC 40/18/7	Netherlands	Standards for oily bilge water separators
MEPC 40/INF.8	United Kingdom	Identification tagging of oil cargo residue and bunker fuel practicability trials, administration and equipment requirements
MEPC 40/INF.20	Netherlands	Standards for oily bilge water separators

19 Election of the Chairman and Vice-Chairman

20 Any other business

MEPC 40/20	Secretariat	List of facilities in ports for reception of oily waste and chemical residues from ships
MEPC 40/20/1	INTERTANKO	Developing principles for charging users the cost of maritime infrastructure
MEPC 40/20/2	Rep. of Korea	Prevention of pollution caused by pitting of oil tankers
MEPC 40/20/3	Secretariat	Applications for consultative status
MEPC 40/INF.2	Secretariat	UNDP/IMO/GEF Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas -1996 Annual Report

MEPC 40/INF.3	Argentina	Solicitud de información de puntos de contacto de las Administraciones involucradas en acuerdos tripartitos
MEPC 40/INF.9	United States	Ship strikes of endangered northern right whales
MEPC 40/INF.14	Secretariat	On course for cleaner oceans
MEPC 40/INF.15	HELCOM	Information on the activities of the Helsinki Commission
MEPC 40/INF.19	Rep. of Korea	Prevention of pollution caused by pitting of oil tankers
MEPC 40/INF.21	Rep. of Korea	Thirteenth International Symposium on the Transport of Dangerous Goods by Sea and Inland Waterways (ISTDG 13)
MEPC 40/INF.24	Secretariat	Environmental Award made to IMO
MEPC 40/INF.27	Australia and	Directory of Waste Reception Facilities in Australian New Zealand and New Zealand ports
MEPC 40/INF.29	United Kingdom	Overboard discharge monitoring systems

21 Consideration of the report of the Committee

ANNEX 2**DRAFT ASSEMBLY RESOLUTION****1998 INTERNATIONAL YEAR OF THE OCEAN**

THE ASSEMBLY,

RECALLING Articles 1(d) and 2(a) of the Convention on the International Maritime Organization, respectively concerning the purposes of the Organization and the performance of functions by the Assembly in relation to consideration of any matters concerning shipping and the effect of shipping on the marine environment that may be referred to it by any organ or specialized agency of the United Nations,

RECALLING ALSO Article 60 of the Convention on the International Maritime Organization that the Organization shall co-operate with any specialized agency of the United Nations in matters which may be the common concern of the Organization and of such specialized agency,

NOTING that the General Assembly of the United Nations, by resolution 49/131 of 19 December 1994, declared 1998 as the International Year of the Ocean, with the principal aim of raising greater awareness of the ocean, including maritime safety and the protection of the marine environment, and that Governments and the specialized agencies of the United Nations are invited to organize appropriate activities to observe the Year,

RECOGNIZING that more than half the world's population lives within 60 km of the shoreline and that 80 per cent of all commodities are transported by ships across the oceans and that this results in the need to promote, through international co-operation and co-ordination, the integrated management and sustainable development of all coastal and ocean areas,

BEING AWARE of IMO's role in the prevention, reduction and control of degradation of the marine environment from sea-based activities,

RECOGNIZING ALSO that many specialized agencies and programmes of the United Nations system and Governments, attaching great importance to the ocean, have started to prepare for activities at international, regional or national levels,

NOTING WITH SATISFACTION that a number of IMO activities in 1998 will be associated with the Year and that IMO will co-operate with other UN agencies to organize several joint activities as contributions of the UN system to the Year,

1. REQUESTS the Secretary-General, following discussions with appropriate bodies of the United Nations system and in the Administrative Committee on Co-ordination (ACC) including the ACC Sub-Committee on Oceans and Coastal Areas, to organize or co-operate with more relevant activities;
2. REQUESTS ALSO the Secretary General to make use of this event to promote a greater public awareness of the goals and achievements of the Organization through the public information and media resources of the United Nations family; and
3. RECOMMENDS that Member Governments undertake activities to observe the 1998 International Year of the Ocean and ensure that the importance of maritime safety and environmental protection and the role of the Organization are highlighted in such activities.

ANNEX 3**RESOLUTION MEPC.74(40)
adopted on 25 September 1997****IDENTIFICATION OF THE ARCHEPELAGO OF SABANA-CAMAGÜEY
AS A PARTICULARLY SENSITIVE SEA AREA**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

BEING AWARE of the ecological, social, economic, cultural, scientific and educational value of the Archipelago of Sabana-Camagüey as well as the international shipping traffic and activities in the area,

RECALLING that the Archipelago of Sabana-Camagüey is a part of the Wider Caribbean Region which has been designated as a special area under the provisions of regulation 5 of Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and that requirements in respect of this special area have not yet taken effect,

RECALLING ALSO that full compliance with the requirements of Annex I of MARPOL 73/78 in controlling discharge of oil is of paramount importance for the particularly sensitive sea area.

RECALLING FURTHER that the Maritime Safety Committee, at its forty-eighth session, adopted several traffic separation schemes for the waters off the northern coast of Cuba, some of which fall within the Archipelago of Sabana-Camagüey,

NOTING that article 211(6) of the 1982 United Nations Convention on the Law of the Sea is further evidence of the will of States to co-operate in defining vulnerable marine areas requiring a higher level of protection than that which generally applies,

NOTING FURTHER that the Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas adopted as resolution A.720(17) set out procedures for designation of particularly sensitive sea areas and for adoption of measures to be applied in such special areas,

HAVING CONSIDERED the proposal by Cuba to designate the Archipelago of Sabana-Camagüey as a particularly sensitive sea area,

RECOGNIZING that measures to be applied in the proposed area should further be considered at future sessions of the Committee and the Maritime Safety Committee before their adoption in accordance with the provisions of paragraphs 3.4 to 3.8, as applicable,

RECOGNIZING ALSO the intention of Member Governments to co-operate with the coastal State to determine measures to be applied in the proposed sea area as soon as possible,

HAVING CONSIDERED that criteria for identification of a particularly sensitive sea area provided in resolution A.720(17) are fulfilled for the Archipelago of Sabana-Camagüey,

IDENTIFIES the Archipelago of Sabana-Camagüey as defined in the Annex to this resolution as a particularly sensitive sea area.

ANNEX

Geographical Description of the Archipelago of Sabana-Camagüey

The particular sensitive sea area is identified as waters inland of the baselines determined by the following geographical co-ordinates:

Latitude	Longitude	
23 ⁰ 11' 0 N	82 ⁰ 00' 0 W	Punta Tijeras
23 ⁰ 16' 0 N	81 ⁰ 05' 2 W	Cayo Mono
23 ⁰ 16' 9 N	80 ⁰ 54' 9 W	Faro Cruz del Padre
23 ⁰ 13' 6 N	80 ⁰ 19' 6 W	
22 ⁰ 56' 8 N	79 ⁰ 45' 4 W	Cayo La Vela
22 ⁰ 41' 4 N	78 ⁰ 53' 4 W	
22 ⁰ 37' 6 N	78 ⁰ 38' 8 W	Cayos Guillermitos
22 ⁰ 32' 9 N	78 ⁰ 22' 8 W	
22 ⁰ 28' 9 N	78 ⁰ 10' 0 W	Cayo Paredón Grande
22 ⁰ 21' 1 N	77 ⁰ 51' 7 W	Bajo Tributarios de Minerva
22 ⁰ 11' 5 N	77 ⁰ 39' 8 W	Cayo Confites
21 ⁰ 39' 8 N	77 ⁰ 08' 4 W	Punta Maternillos
21 ⁰ 16' 1 N	76 ⁰ 21' 4 W	

ANNEX 4

**UNIFIED INTERPRETATIONS TO THE REGULATIONS
OF ANNEX I OF MARPOL 73/78**

1 Unified Interpretation 4.1 is amended to read:

4.1 Capacity of SBT

4.1.1 For the purpose of application of regulation 13(3)(b), as amended, the following operations of oil tankers are regarded as falling within the category of exceptional cases:

.1 (unchanged)

.2 (unchanged)

.3 (unchanged)

.4 when loading and unloading arrangements require the tanker to be at a draught deeper than ~~specified in regulation 13(2)~~ that achieved when all segregated ballast tanks are full.

2 The following interpretation 11A is added:

11A Intact stability.

11A.1 The vessel should be loaded with all cargo tanks filled to a level corresponding to the maximum combined total of vertical moment of volume plus free surface inertia moment at 0° heel, for each individual tank. Cargo density should correspond to the available cargo deadweight at the displacement at which transverse KM reaches a minimum value, assuming full departure consumables and 1% of the total water ballast capacity. The maximum free surface moment should be assumed in all ballast tanks. For the purpose of calculating G_M, liquid free surface corrections should be based on the appropriate upright free surface inertia moment. The righting lever curve may be corrected on the basis of liquid transfer moments.

ANNEX 5

**RESOLUTION MEPC.75(40)
adopted on 25 September 1997****AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING
TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION
OF POLLUTION FROM SHIPS, 1973****(Amendments to regulation 10 and new regulation 25A of Annex I of MARPOL 73/78)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the function of the Committee conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and article VI of the Protocol of 1978 relating to the 1973 Convention (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confers upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

CONSIDERING the proposal of the littoral States to make North West European waters a special area under Annex I of MARPOL 73/78,

RECOGNIZING that there is a need to specify intact stability criteria for double hull tankers by adding an appropriate regulation to Annex I of MARPOL 73/78,

HAVING CONSIDERED the amendments to regulation 10 and the new regulation 25A of Annex I of MARPOL 73/78, which were approved by the thirty-ninth session by the Committee and circulated in accordance with article 16(2)(a) of the 1973 Convention,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to regulation 10 and the new regulation 25A of Annex I of MARPOL 73/78, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 August 1998, unless prior to that date, not less than one-third of the Parties or the Parties, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objections to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the amendments shall enter into force on 1 February 1999 in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to MARPOL 73/78 certified copies of the present resolution and the text of the amendments contained in the Annex;
5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to MARPOL 73/78 copies of the resolution and its Annex.

**AMENDMENTS TO REGULATION 10 AND NEW REGULATION 25A
OF ANNEX I OF MARPOL 73/78**

1 The existing text of regulation 10 of Annex I is amended as follows:

"Regulation 10

Methods for the prevention of oil pollution from ships while operating in special areas

(1) For the purpose of this Annex, the special areas are the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area, the "Gulfs area", the Gulf of Aden area, the Antarctic area and the North West European waters, which are defined as follows:

(a) to (g) No change.

(h) The North West European waters include the North Sea and its approaches, the Irish Sea and its approaches, the Celtic Sea, the English Channel and its approaches and part of the North East Atlantic immediately to the west of Ireland. The area is bounded by lines joining the following points:

(i) 48° 27'N on the French coast

(ii) 48° 27'N; 6° 25'W

(iii) 49° 52'N; 7° 44'W

(iv) 50° 30'N; 12°W

(v) 56° 30'N; 12°W

(vi) 62°N; 3°W

(vii) 62°N on the Norwegian coast

(viii) 57° 44.8'N on the Danish and Swedish coasts

(2) to (6) No change

(7) Reception facilities within special areas:

(a) No change

(b) Red Sea area, Gulfs area, Gulf of Aden area and North West European waters:

(i) to (vii) No change

(8) No change"

2 The following new regulation 25A is added after regulation 25:

"Regulation 25A

Intact stability

- (1) This regulation shall apply to oil tankers of 5,000 tons deadweight and above:
- (a) for which the building contract is placed on or after 1 February 1999,
- or
- (b) in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 August 1999, or
 - (c) the delivery of which is on or after 1 February 2002, or
 - (d) which have undergone a major conversion:
 - (i) for which the contract is placed after 1 February 1999; or
 - (ii) in the absence of a contract, the construction work of which is begun after 1 August 1999; or
 - (iii) which is completed after 1 February 2002.
- (2) Every oil tanker shall comply with the intact stability criteria specified in subparagraphs (a) and (b) of this paragraph, as appropriate, for any operating draught under the worst possible conditions of cargo and ballast loading, consistent with good operational practice, including intermediate stages of liquid transfer operations. Under all conditions the ballast tanks shall be assumed slack.
- (a) In port, the initial metacentric height GMO , corrected for free surface measured at 0° heel, shall be not less than 0.15 m;
 - (b) At sea, the following criteria shall be applicable:
 - (i) the area under the righting lever curve (GZ curve) shall be not less than 0.055 m.rad up to $\theta = 30^\circ$ angle of heel and not less than 0.09 m.rad up to $\theta = 40^\circ$ or other angle of flooding θ_f^* if this angle is less than 40° . Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30° and 40° or between 30° and θ_f , if this angle is less than 40° , shall be not less than 0.03 m.rad;
 - (ii) the righting lever GZ shall be at least 0.20 m at an angle of heel equal to or greater than 30° ;

* θ_f is the angle of heel at which openings in the hull, superstructures or deck-houses, which cannot be closed weathertight, immerse. In applying this criterion, small openings through which progressive flooding cannot take place need not be considered as open.

- (iii) the maximum righting arm shall occur at an angle of heel preferably exceeding 30° but not less than 25°; and
- (iv) the initial metacentric height GMO , corrected for free surface measured at 0° heel, shall be not less than 0.15 m.

(3) The requirements of paragraph (2) shall be met through design measures. For combination carriers simple supplementary operational procedures may be allowed.

(4) Simple supplementary operational procedures for liquid transfer operations referred to in paragraph (3) shall mean written procedures made available to the master which:

- (i) are approved by the Administration;
- (ii) indicate those cargo and ballast tanks which may, under any specific condition of liquid transfer and possible range of cargo densities, be slack and still allow the stability criteria to be met. The slack tanks may vary during the liquid transfer operations and be of any combination provided they satisfy the criteria;
- (iii) will be readily understandable to the officer-in-charge of liquid transfer operations;
- (iv) provide for planned sequences of cargo/ballast transfer operations;
- (v) allow comparisons of attained and required stability using stability performance criteria in graphical or tabular form;
- (vi) require no extensive mathematical calculations by the officer-in-charge;
- (vii) provide for corrective actions to be taken by the officer-in-charge in case of departure from recommended values and in case of emergency situations; and
- (viii) are prominently displayed in the approved trim and stability booklet and at the cargo/ballast transfer control station and in any computer software by which stability calculations are performed."

ANNEX 6**DRAFT ASSEMBLY RESOLUTION****GUIDELINES FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST
WATER TO MINIMIZE THE TRANSFER OF HARMFUL
AQUATIC ORGANISMS AND PATHOGENS**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.774(18) by which it recognizes that the uncontrolled discharge of ballast water and sediment from ships has led to the transfer of harmful aquatic organisms and pathogens causing injury to public health and damage to property and the environment and accordingly adopted Guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges, and further that the Marine Environment Protection Committee (MEPC) and the Maritime Safety Committee (MSC) shall keep the ballast water issue and the application of the Guidelines under review with a view to further developing the Guidelines as a basis for a new Annex to MARPOL 73/78,

RECALLING FURTHER that the 1992 United Nations Conference on Environment and Development (UNCED) in its Agenda 21 requests IMO to consider the adoption of appropriate rules on ballast water discharge to prevent the spread of non-indigenous organisms and further proclaims in its Declaration on Environment and Development that States shall widely apply the precautionary approach according to their capabilities,

BEARING IN MIND that MEPC/Circ.288 recognized that the existing Guidelines do not provide a complete solution towards the total prevention of the introduction of harmful aquatic organisms and pathogens but that focus should be directed on measures aimed at minimizing the risks, emphasizing further that in applying the existing Guidelines, the ship's safety was of paramount importance,

NOTING the objectives of the Convention on Biological Diversity, 1992, and that the transfer and introduction of alien aquatic species with ballast water threatens the conservation and sustainable use of biological diversity,

NOTING FURTHER the status of work carried out by MEPC as requested by resolution A.774(18) concerning the development of legally binding provisions on ballast water management together with guidelines for their effective implementation as well as the Guidance on Safety Aspects of Ballast Water Exchange at Sea prepared by the Sub-Committee on Ship Design and Equipment, and distributed as MEPC/Circ.329 and MSC/Circ.806, both of 30 June 1997,

RECOGNIZING that several States have taken unilateral action by adopting legally binding provisions for local, regional or national application with a view to minimizing the risks of introducing harmful aquatic organisms and pathogens through ships entering their ports and also that this issue,

being of worldwide concern, demands action based on globally applicable regulation together with guidelines for their effective implementation and uniform interpretation,

HAVING CONSIDERED the recommendation of the MEPC at its fortieth session on this issue,

1. ADOPTS the Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens set out in the Annex to the present resolution;
2. REQUESTS Governments to take urgent action in applying these Guidelines, including the dissemination thereof to the shipping industry, and to use them as a basis for any measures they adopt with a view to minimizing the risks of introducing harmful aquatic organisms and pathogens and to report to the MEPC on any experience gained in their implementation;
3. REQUESTS ALSO the MEPC to work towards completion of legally binding provisions on ballast water management in the form of a new Annex to MARPOL 73/78 together with guidelines for their uniform and effective implementation with a view to their consideration and adoption in the year 2000;
4. REQUESTS FURTHER the MSC to include in its workplan the evaluation of information received from interested Parties particularly that relevant to paragraph 12.2 of the guidelines adopted herewith with a view to determining the hazards and potential consequences for various existing ship types and operations. The MSC is also requested to consider any other relevant issues concerning ballast water management as well as design objectives for new ships with a view to minimizing to the extent possible risks of introducing harmful aquatic organisms and pathogens with ships' ballast water and sediments;
5. REVOKES resolution A.774(18).

ANNEX

**DRAFT GUIDELINES FOR THE CONTROL AND MANAGEMENT OF
SHIPS' BALLAST WATER TO MINIMIZE THE TRANSFER OF
HARMFUL AQUATIC ORGANISMS AND PATHOGENS**

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1 Introduction

1.1 Studies carried out in several countries have shown that many species of bacteria, plants, and animals can survive in a viable form in the ballast water and sediment carried in ships, even after journeys of several months' duration. Subsequent discharge of ballast water or sediment, into the waters of port States, may result in the establishment of harmful aquatic organisms and pathogens which may pose threats to indigenous human, animal and plant life, and the marine environment. Although other media have been identified for transferring organisms between geographically separated water bodies, ballast water discharge from ships appears to have been among the most prominent.

1.2 The potential for ballast water discharge to cause harm has been recognised not only by the International Maritime Organization but also by the World Health Organization which is concerned about the role of ballast water as a medium for the spreading of epidemic disease bacteria.

1.3 These guidelines are not to be regarded as a certain solution to the problem. Rather, each part of these guidelines should be viewed as tools which, if correctly applied, will help to minimize the risks associated with ballast water discharge. As scientific and technological advances are made, these guidelines will be refined to enable the risk to be more adequately addressed. In the interim, port States, flag States and other parties that can assist in mitigating this problem should exercise due care and diligence in an effort to conform to the maximum extent possible with the guidelines.

1.4 The selection of appropriate methods of risk minimization will depend upon several factors, including the type or types of organisms being targeted, the level of risk involved, its environmental acceptability, the economic and ecological costs involved and the safety of ships.

2 Definitions

For the purposes of these guidelines, the following definitions apply:

"Administration" means the Government of the State under whose authority the ship is operating.

"Convention" means MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships 1973 and the Protocol of 1978 related thereto).

"Member States" means States that are Members of the International Maritime Organization.

"Organization" means the International Maritime Organization (IMO).

"Port State Authority" means any official or organisation authorized by the government of a port State to administer guidelines or enforce standards and regulations relevant to the implementation of national and international shipping control measures.

"Treatment" means a process or mechanical, physical, chemical or biological method to kill, remove or render infertile, harmful or potentially harmful organisms within ballast water.

3 Application

The Guidelines are directed to Member States and can apply to all ships; however, a port State Authority shall determine the extent to which these Guidelines do apply.

4 Guideline Objectives and Background

4.1 The objectives of these Guidelines, developed under technical and scientific guidance, are intended to assist governments and appropriate authorities, ship masters, operators and owners, and port authorities as well as other interested parties in minimizing the risk of introducing harmful aquatic organisms and pathogens from ships' ballast water and associated sediments while protecting ships' safety.

4.2 The Guidelines allow port States to exempt ships within the area under their jurisdiction from part of, or all of the relevant provisions. Notwithstanding that any administration wishing to apply restrictions to ballast water operations should still follow these Guidelines, when developing legislation or procedures.

4.3 In order that the Guidelines be implemented in a standard and uniform manner, all member State governments, ship operators, other appropriate authorities and interested parties are requested to apply these Guidelines.

5 Dissemination of Information

5.1 Administrations are encouraged to maintain and exchange information relevant to these guidelines through the Organization. Accordingly, administrations are encouraged to provide the Organization with the following:

- .1 Information on severe outbreaks or infestations of harmful aquatic organisms which may pose a risk;
- .2 Copies of current domestic laws and regulations;
- .3 Technical and research information;
- .4 Education materials (such as audio and video tapes) and printed materials; and
- .5 Location and terms of use of alternative exchange zones, contingency strategies, availability of shore reception facilities, fees, etc.

5.2 Member States, applying ballast water and sediment discharge procedures, should notify the Organization of specific requirements and provide to the Organization, for the information of other member States and non-governmental organisations, copies of any regulations, standards, exemptions or guidelines being applied. Verification and detailed information concerning port State requirements should be obtained by the ship prior to arrival.

5.3 Port State authorities should provide the widest possible distribution of information on ballast water and sediment management and treatment requirements that are being applied to shipping. Failure to do so may lead to unnecessary delays for ships seeking entry to port States.

5.4 Shipping organisations and ships' managers should be familiar with the requirements of port State authorities with respect to ballast water and sediment management and treatment procedures, including information that will be needed to obtain entry clearance.

5.5 Member States are invited to provide the Organization with details of any research and development studies that they carry out, with respect to the impact and control of harmful aquatic organisms and pathogens in ships' ballast water and sediment.

5.6 Member States should provide to the Organization details of records describing reasons why existing requirements could not be complied with, e.g. force majeure, heavy weather, failure of equipment, and lack of information concerning port State requirements.

6 Training and Education

6.1 Training for ships' masters and crews as appropriate should include instructions on the application of ballast water and sediment management and treatment procedures, based upon the information contained in these guidelines. Instruction should also be provided on the maintenance of appropriate records and logs. Governments should ensure that their marine training organisations include this in the contents of their syllabus.

6.2 The application of processes and procedures concerning ballast water management are currently at the core of the solution to minimize the introduction of harmful aquatic organisms and pathogens.

6.3 Governments are encouraged to include knowledge of duties regarding the control of pollution of the sea by harmful aquatic organisms and pathogens in their training requirements for certificates.

7 Procedures for Ships and Port States

7.1 Procedures for Ships

7.1.1 Every ship that carries ballast water should be provided with a ballast water management plan to assist in the minimization of transfer of harmful aquatic organisms and pathogens. The intent of the plan should be to provide safe and effective procedures for ballast water management.

7.1.2 The ballast water management plan should be specific to each ship.

7.1.3 The ballast water management plan should be included in the ship's operational documentation. Such a plan should address, *inter alia*:

- relevant parts of these guidelines;
- approval documentation relevant to treatment equipment;
- an indication of records required; and
- the location of possible sampling points.

7.2 Procedures for Port States

7.2.1 Reception and treatment facilities should be made available for the environmentally safe disposal of ballast tank sediments.

7.2.2 Discharge of ship's ballast water into port reception and/or treatment facilities may provide an acceptable means of control. Port State authorities wishing to utilize this strategy should ensure that the facilities are adequate.

8 Recording and Reporting Procedures

8.1 Procedures for Ships

8.1.1 Where a port State authority requires that specific ballast water procedures and/or treatment option(s) be undertaken and, due to weather, sea conditions or operational impracticability such action cannot be taken, the master should report this fact to the port State authority as soon as possible and, where appropriate, prior to entering seas under its jurisdiction.

8.1.2 To facilitate the administration of ballast water management and treatment procedures on board each ship, a responsible officer should be appointed to maintain appropriate records and to ensure that ballast water management and/or treatment procedures are followed and recorded.

8.1.3 When taking on or discharging ballast water, as a minimum, the dates, geographical locations, ship's tank(s) and cargo holds, ballast water temperature and salinity as well as the amount of ballast water loaded or discharged should be recorded. A suitable format is shown in appendix 1. The record should be made available to the port State authority.

8.1.4 The location and suitable access points for sampling ballast or sediment should be described in the ship's ballast water management plan. This will allow crew members to provide maximum assistance when officers of the port State authority require a sample of the ballast water or sediment.

8.2 Procedures for Port States

8.2.1 Consistent with 5.2 above, port States should provide ships with the following information:

- details of their requirements concerning ballast water management;
- location and terms of use of alternative exchange zones;
- any other port contingency arrangements; and
- the availability, location, capacities of and applicable fees relevant to reception facilities that are being provided for the environmentally safe disposal of ballast water and associated sediment.

8.2.2 To assist ships in applying the precautionary practices described in 9.1.1 below, port States should inform local agents and/or the ship of areas and situations where the uptake of ballast water should be minimized, such as:

- areas with outbreaks, infestations or known populations of harmful organisms and pathogens;
- areas with current phytoplankton blooms (algal blooms, such as red tides);
- nearby sewage outfalls;
- nearby dredging operations;
- when a tidal stream is known to be the more turbid; and
- areas where tidal flushing is known to be poor.

9 Ships' Operational Procedures

9.1 Precautionary Practices

9.1.1 Minimizing Uptake of Harmful Aquatic Organisms, Pathogens and Sediments

When loading ballast, every effort should be made to avoid the uptake of potentially harmful aquatic organisms, pathogens and sediment that may contain such organisms. The uptake of ballast water should be minimized or, where practicable, avoided in areas and situations such as:

- areas identified by the port State in connection with advice relating to 8.2.2 above;
- in darkness when bottom dwelling organisms may rise up in the water column;
- in very shallow water; or
- where propellers may stir up sediment.

9.1.2 Removing Ballast Sediment on a Timely Basis

Where practicable, routine cleaning of the ballast tank to remove sediments should be carried out in mid-ocean or under controlled arrangements in port or dry dock, in accordance with the provisions of the ship's ballast water management plan.

9.1.3 Avoiding Unnecessary Discharge of Ballast Water

If it is necessary to take on and discharge ballast water in the same port to facilitate safe cargo operations, care should be taken to avoid unnecessary discharge of ballast water that has been taken up in another port.

9.2 Ballast Water Management Options

9.2.1 Ballast Water Exchange

Near-coastal (including port and estuarine) organisms released in mid-ocean and oceanic organisms released in coastal waters do not generally survive.

When exchanging ballast at sea, guidance on safety aspects of ballast water exchange as set out in appendix 2 should be taken into account. Furthermore, the following practices are recommended:

- where practicable, ships should conduct ballast exchange in deep water, in open ocean and as far as possible from shore. Where this is not possible, requirements developed within regional agreements may be in operation, particularly in areas within 200 nautical miles from shore. Consistent with 9.1.2 above, all of the ballast water should be discharged until suction is lost, and stripping pumps or eductors should be used if possible;
- where the flow-through method is employed in open ocean by pumping ballast water into the tank or hold and allowing the water to overflow, at least three times the tank volume should be pumped through the tank;
- where neither form of open ocean exchange is practicable, ballast exchange may be accepted by the port State in designated areas; and
- other ballast exchange options approved by the port State.

9.2.2 Non-Release or Minimal Release of Ballast Water

In cases where ballast exchange or other treatment options are not possible, ballast water may be retained in tanks or holds. Should this not be possible, the ship should only discharge the minimum essential amount of ballast water in accordance with port States' contingency strategies.

9.2.3 Discharge to Reception Facilities

If reception facilities for ballast water and/or sediments are provided by a port State, they should, where appropriate, be utilized.

9.2.4 Emergent and New Technologies and Treatments

9.2.4.1 If suitable new and emergent treatments and technologies prove viable, these may substitute for, or be used in conjunction with, current options. Such treatments could include thermal, filtration, disinfection including ultraviolet light, and other such means acceptable to the port State.

9.2.4.2 Results concerning the application and effectiveness of new ballast water management technologies and associated control equipment should be notified to the Organization with a view to evaluation and incorporation, as appropriate, into these Guidelines.

10 Port State Considerations

The following is provided for the guidance of port State authorities in the implementation of their ballast water management programme and to assess risks in relation to the ballast water containing harmful aquatic organisms and pathogens.

10.1 Highly Disparate Conditions Between Uptake and Discharge Ports

Significantly different conditions may exist between port(s) of origin and the port in which ballast water is discharged. Examples include freshwater ballast being released into highly saline ports. There may be organisms capable of surviving such extreme transfers; however, there is a lower probability of species establishment under such transport events.

10.2 Ballast Water Age

The length of time during which ballast water is within an enclosed ballast tank may also be a factor in determining the number of surviving organisms, because of the absence of light, decreasing nutrients and oxygen, changes of salinity and other factors. However, the maximum length of survival of organisms in ballast water varies, and in many cases is not known. Water of an age of 100 days should be considered the minimum for applying this consideration. Ballast water and sediments may contain dinoflagellate cysts and other organisms capable of surviving for a much longer length of time.

10.3 Presence of Target Organisms

10.3.1 Under certain circumstances it may be possible to determine if one or more target species are present in the water of a specific port and have been ballasted in a ship. In these circumstances, the receiving port State authority may invoke management measures accordingly. Even if such target species are not present, however, it should be noted that the ship may still be carrying many untargetted species which, if released in new waters, could be potentially harmful.

10.3.2 Port States are encouraged to carry out biological baseline surveys in their ports and to disseminate the results of their investigations.

11 Enforcement and Monitoring by Port States

11.1 Consistent with the precautionary approach to environmental protection, these guidelines can apply to all ships unless specifically exempted by a port State authority within its jurisdiction. In accordance with section 5.2 above, port State authorities should inform the Organization on how these guidelines are being applied.

11.2 Member States have the right to manage ballast water by national legislation. However, any ballast discharge restrictions should be notified to the Organization.

11.3 In all cases, a port State authority should consider the overall effect of ballast water and sediment discharge procedures on the safety of ships and those on board. Guidelines will be ineffective if compliance is dependent upon the acceptance of operational measures that put a ship or its crew at risk. Port States should not require any action of the master which imperils the lives of seafarers or the safety of the ship.

11.4 It is essential that ballast water and sediment management procedures be effective as well as environmentally safe, practicable, designed to minimize costs and delays to the ship, and based upon these guidelines whenever possible.

11.5 Any instructions or requirements of a ship should be provided in a timely manner and be clear and concise.

11.6 Port States should on request provide a visiting ship with any requested information relative to ballast water management and its potential effects with respect to harmful aquatic organisms and pathogens.

11.7 Any enforcement or monitoring activities should be undertaken in a fair, uniform and nationally consistent manner at all ports within the port State. Where there are compelling reasons whereby nationally consistent procedures cannot be followed then deviations should be reported to the Organization.

11.8 Compliance monitoring should be undertaken by port State authorities by, for example, taking and analysing ballast water and sediment samples to test for the continued survival of harmful aquatic organisms and pathogens.

11.9 Where ballast water or sediment sampling for compliance or effectiveness monitoring is being undertaken, port State authorities should minimize delays to ships when taking such samples.

11.10 When sampling for research or compliance monitoring, the port State authority should give as much notice as possible to the ship that sampling will occur, to assist in planning staffing and operational resources.

11.11 The master has a general obligation to provide reasonable assistance for the above monitoring which may include provision of officers or crew, provision of the ship's plans, records pertaining to ballast arrangements and details concerning the location of sampling points.

11.12 Sampling methods for research and monitoring is the responsibility of the individual port State. The Organization welcomes information on new or innovative methods of sampling and/or analysis, and any relevant information should be provided to it.

11.13 Port State authorities should indicate to the master or responsible officer the purpose for which a sample is taken (i.e., monitoring, research or enforcement). Results of analyses of samples should be made available to ship's operators on request.

11.14 Port State authorities may sample or require samples to analyse ballast water and sediment, before permitting a ship to proceed to discharge its ballast water in environmentally sensitive locations. In the event that harmful aquatic organisms or pathogens are found to be present in the samples, a port State's contingency strategy may be applied.

12 Future Considerations in Relation to Ballast Water Exchange

12.1 Research Needs

Operational measures such as ballast water exchange may be appropriate in the short term; however, there is a clear need for further research. These Guidelines should be revised and adjusted in the light of results concerning new ballast water management options.

12.2 Long-Term Evaluation of Safety Aspects in Relation to Ballast Water Exchange

Recognizing the need to evaluate the hazards and potential consequences for various types of ships and operations, interested parties should carry out detailed studies and provide information relevant to:

- experience gained from carrying out ballast water exchange at sea, including any samples/model procedures;
- operational precautions and procedures implemented to avoid potential hazards and consequences that may arise during the ballast water exchange at sea;
- an evaluation of the safety margins between the actual metacentric height and stresses versus the allowable seagoing limits specified in the approved trim and stability booklet and loading manual, relevant to different types of ships and loading conditions;
- any hazards which may arise due to human element issues relative to the responsible execution of ballast water exchange at sea in a manner which may not be fully prudent;
- operational procedures carried out prior to initiating the ballast water exchange at sea and check points during the exchange;
- the extent of training and management necessary to ensure that the process of ballast water exchange at sea is effectively monitored and controlled on board;
- plan of action to incorporate any unique procedures should an emergency occur which may affect the exchange of ballast water at sea; and
- the decision making process, taking into account relevant safety matters, including ship's position, weather conditions, machinery performance, ballast system inspection and maintenance, crew safety and availability.

13 Ballast System Design

Builders, owners and classification societies should take these guidelines into consideration when designing new ships or modifying existing ships.

APPENDIX 2

GUIDANCE ON SAFETY ASPECTS OF BALLAST WATER EXCHANGE AT SEA

1 Introduction

1.1 This document is intended to provide guidance on the safety aspects of ballast water exchange at sea. The different types of ships which may be required to undertake ballast water exchange at sea make it presently impractical to provide specific guidelines for each ship type. Shipowners are cautioned that they should consider the many variables that apply to their ships. Some of these variables include type and size of ship, ballast tank configurations and associated pumping systems, trading routes and associated weather conditions, port State requirements and manning.

1.2 Ballast water exchange at sea procedures contained in relevant management plans should be individually assessed for their effectiveness from the environmental protection point of view as well as their acceptability in terms of structural strength and stability.

1.3 In the absence of a more scientifically based means of control, exchange of ballast water in deep ocean areas or open seas currently offers a means of limiting the probability that fresh water or coastal aquatic species will be transferred in ballast water. Two methods of carrying out ballast water exchange at sea have been identified:

- .1 the sequential method in which ballast tanks are pumped out and refilled with clean water; and/or
- .2 the flow through method in which ballast tanks are simultaneously filled and discharged by pumping in clean water.

2 Safety precautions

2.1 Ships engaged in ballast water exchange at sea should be provided with procedures which account for the following, as applicable:

- .1 avoidance of over and under pressurization of ballast tanks;
- .2 free surface effects on stability and sloshing loads in tanks that may be slack at any one time;
- .3 admissible weather conditions;
- .4 weather routing in areas seasonably affected by cyclones, typhoons, hurricanes, or heavy icing conditions;

- .5 maintenance of adequate intact stability in accordance with an approved trim and stability booklet;
- .6 permissible seagoing strength limits of shear forces and bending moments in accordance with an approved loading manual;
- .7 torsional forces, where relevant;
- .8 minimum/maximum forward and aft draughts;
- .9 wave induced hull vibration;
- .10 documented records of ballasting and/or de-ballasting;
- .11 contingency procedures for situations which may affect the ballast water exchange at sea, including deteriorating weather conditions, pump failure, loss of power, etc.;
- .12 time to complete the ballast water exchange or an appropriate sequence thereof, taking into account that the ballast water may represent 50 % of the total cargo capacity for some ships; and
- .13 monitoring and controlling the amount of ballast water.

2.2 If the flow through method is used, caution should be exercised, as:

- .1 air pipes are not designed for continuous ballast water overflow;
- .2 current research indicates that pumping of at least three full volumes of the tank capacity could be needed to be effective, when filling clean water from the bottom and overflowing from the top; and
- .3 certain watertight and weathertight closures (e.g. manholes) which may be opened during ballast exchange, should be re-secured;

2.3 Ballast water exchange at sea should be avoided in freezing weather conditions. However, when it is deemed absolutely necessary, particular attention should be paid to the hazards associated with the freezing of overboard discharge arrangements, air pipes, ballast system valves together with their means of control, and the accretion of ice on deck.

2.4 Some ships may need the fitting of a loading instrument to perform calculations of shear forces and bending moments induced by ballast water exchange at sea and to compare with the permissible strength limits.

2.5 An evaluation should be made of the safety margins for stability and strength contained in allowable seagoing conditions specified in the approved trim and stability booklet and the loading

manual, relevant to individual types of ships and loading conditions. In this regard particular account should be taken of the following requirements:

- .1 stability to be maintained at all times to values not less than those recommended by the Organization (or required by the Administration);
- .2 longitudinal stress values not to exceed those permitted by the ship's classification society with regard to prevailing sea conditions; and
- .3 exchange of ballast in tanks or holds where significant structural loads may be generated by sloshing action in the partially filled tank or hold to be carried out in favourable sea and swell conditions such that the risk of structural damage is minimized.

2.6 The ballast water management plan should include a list of circumstances in which ballast water exchange should not be undertaken. These circumstances may result from critical situations of an exceptional nature or *force majeure* due to stress of weather or any other circumstances in which human life or safety of the ship is threatened.

3 Crew training and familiarization

3.1 The ballast water management plan should include the nomination of key shipboard control personnel undertaking ballast water exchange at sea.

3.2 Ships' officers and ratings engaged in ballast water exchange at sea should be trained and familiarized as follows:

- .1 with the ship's pumping plan which should show ballast pumping arrangements, with positions of associated air and sounding pipes, positions of all compartment and tank suction and pipelines connecting them to ship's ballast pumps and, in the case of use of the flow through method of ballast water exchange, the openings used for release of water from the top of the tank together with overboard discharge arrangements;
- .2 with the method of ensuring that sounding pipes are clear, air pipes and their non-return devices are in good order;
- .3 with the different times required to undertake the various ballast water exchange operations;
- .4 with the methods in use for ballast water exchange at sea if applicable with particular reference to required safety precautions; and
- .5 with the method of on-board ballast water record keeping, reporting and recording of routine soundings.

ANNEX 7

TERMS OF REFERENCE FOR THE CORRESPONDENCE GROUPS

- 1 **Designation of special areas and identification of particularly sensitive sea areas**
- 1 Assess the need to revise the Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas (resolution A.720(17)), taking into account documents MEPC 36/21/4, MEPC 36/21/1, and any other relevant documents.
- 2 Consider the relationship between Particularly Sensitive Sea Areas and other areas used by IMO to protect the marine environment, taking into account provisions of UNCLOS.
- 3 Seek the input of expertise from other relevant IMO bodies.
- 4 Provide an interim report to MEPC 41 and a more detailed report for discussion at MEPC 42.
- 5 Observe the provisions of the Guidelines for Correspondence Groups (MSC/Circ.816 & MEPC/Circ.331, annex, Appendix 2).
- 6 The Guidelines on Application of the Precautionary Approach (resolution MEPC.67(37)) shall be applicable to the Work of the Correspondence Group.
- 2 **Reduction of the Harmful effects of the Use of Anti-fouling Paints from ships including TBT**
- 1 The Guidelines on Application of the precautionary Approach (resolution MEPC.67(37)) shall be applicable to the work of the Correspondence Group.
- 2 Review of ongoing research on harmful effects of anti-fouling systems on marine environment (including harbour sediments), with the aim to enable decisions on necessary extent of measures. Encouragement of further research.
- 3 Encouragement, with a high priority, of intensified research programmes for alternative systems having acceptable performance standards with least possible adverse effects for the marine environment.
- 4 Development of criteria for admission of substances to be used as anti-fouling paints, enabling:
 - .1 selection of substances to be eliminated;
 - .2 selection of substances less harmful than TBT; and
 - .3 selection of substances and systems that can be considered environmentally safe.
- 5 Development of guidance for Member States to develop a mechanism to monitor performance of anti-fouling systems.

- 6 Development of interim measures (term of 5 years or less), with an indication of economic impacts, aiming at a reduction of adverse effects of anti-fouling systems to the marine environment, such as, but not limited to:
 - .1 optimization of the use of existing systems;
 - .2 further possible restrictions on the leaching rate of the systems;
 - .3 measures relating to the application and removal of systems; and
 - .4 standards adopted by IMO for certain categories of ships¹
- 7 Development of long-term measures (within the next 10 years, but ultimately by the year 2006), moving towards a total ban of TBT paints and other anti-fouling systems which are harmful to the marine environment.
- 8 Consideration of mandatory and/or recommendatory measures, preferably within the framework of the MARPOL Convention, for achieving the above-mentioned goals as far as applicable. Consideration of control and enforcement.
- 9 Preparation of a written report to MEPC 41 including the envisaged measures with indication of the time-frame for finalization of the work.

¹Such as ships below a certain size, ships having high drydocking frequencies; ships solely operated in restricted services (such as ferries), certain ship types.

ANNEX 8**RESOLUTION MEPC.76(40)
adopted on 25 September 1997****STANDARD SPECIFICATION FOR SHIPBOARD INCINERATORS**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(c) of the Convention on the International Maritime Organization concerning the function of the Committee,

RECALLING ALSO that Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), provides regulations for the prevention of pollution by garbage from ships,

RECOGNIZING that the Assembly at its seventeenth session adopted resolution A.719(17) on prevention of air pollution from ships, and requested the Committee and the Maritime Safety Committee to develop environmentally based standards for incineration of garbage and other ship-generated waste,

RECOGNIZING ALSO that the Committee, at its thirty-third session, adopted resolution MEPC.59(33) - Revised Guidelines for the Implementation of Annex V of MARPOL 73/78, which included the original text of the Standard Specification for Shipboard Incinerators,

NOTING that the Conference of Parties to MARPOL 73/78, held in conjunction with MEPC 40, adopted the Protocol of 1997 to amend MARPOL 73/78, including its Annex VI - Regulations for the Prevention of Air Pollution from Ships,

BEING AWARE that the regulation 16(2) on shipboard incinerators within Annex VI to MARPOL 73/78 includes reference to mandatory operating limits for shipboard incinerators as contained in appendix IV to Annex VI and approval of such incinerators by the Administration to be based on the standard specification developed by the Organization,

ALSO BEING AWARE that regulation 16 of Annex VI of MARPOL 73/78 prohibits shipboard incineration of certain substances,

HAVING CONSIDERED the recommendations by the Sub-Committee on Ship Design and Equipment at its fortieth session regarding the Standard Specification for Shipboard Incinerators,

1. ADOPTS the Standard Specification for Shipboard Incinerators, the text of which supersedes Appendix 2 to the Revised Guidelines for the Implementation of Annex V of MARPOL 73/78, adopted by resolution MEPC.59(33), and which is set out at Annex to this resolution; and
2. URGES Governments to apply the Standard Specification for Shipboard Incinerators when implementing the provisions of Annexes V and VI of MARPOL 73/78.

ANNEX

STANDARD SPECIFICATION FOR SHIPBOARD INCINERATORS

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ANNEX

A1 - Emission Standard for Shipboard Incinerators

A2 - Fire Protection Requirements for Incinerators and Waste Stowage Spaces

A3 - Incinerators integrated with heat recovery units

A4 - Flue gas temperature

STANDARD SPECIFICATION FOR SHIPBOARD INCINERATORS

1 Scope

1.1 This specification covers the design, manufacture, performance, operation and testing of incinerators intended to incinerate garbage and other shipboard wastes generated during the ship's normal service.

1.2 This specification applies to those incinerator plants with capacities up to 1,500 kW per unit.

1.3 This specification does not apply to systems on special incinerator ships, e.g., for burning industrial wastes such as chemicals, manufacturing residues, etc.

1.4 This specification does not address the electrical supply to the unit, nor the foundation connections and stack connections.

1.5 This specification provides emission requirements in annex A1, and fire protection requirements in annex A2. Provisions for incinerators integrated with heat recovery units and provisions for flue gas temperature are given in annex A3 and annex A4, respectively.

1.6 This specification may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use, including possible port State limitations.

2 Definitions

2.1 Ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushioned vehicles, submersibles, floating craft and fixed or floating platforms.

2.2 Incinerator means shipboard facilities for incinerating solid wastes approximating in composition to household waste and liquid wastes arising from the operation of the ship, e.g., domestic waste, cargo-associated waste, maintenance waste, operational waste, cargo residues, and fishing gear, etc. These facilities may be designed to use or not to use the heat energy produced.

2.3 Garbage means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during normal operation of the ship as defined in Annex V to MARPOL 73/78.

2.4 Waste means useless, unneeded or superfluous matter which is to be discarded.

2.5 Food wastes are any spoiled or unspoiled victual substances, such as fruits, vegetables, dairy products, poultry, meat products, food scraps, food particles, and all other materials contaminated by such wastes, generated aboard ship, principally in the galley and dining areas.

2.6 Plastic means a solid material which contains as an essential ingredient one or more synthetic organic high polymers and which is formed (shaped) during either manufacture of the polymer or the fabrication into a finished product by heat and/or pressure. Plastics have material properties ranging

from hard and brittle to soft and elastic. Plastics are used for a variety of marine purposes including, but not limited to, packaging (vapour-proof barriers, bottles, containers, liners), ship construction (fibreglass and laminated structures, siding, piping, insulation, flooring, carpets, fabrics, paints and finishes, adhesives, electrical and electronic components), disposable eating utensils and cups, bags, sheeting, floats, fishing nets, strapping bands, rope and line.

2.7 Domestic waste means all types of food wastes, sewage and wastes generated in the living spaces on board the ship for the purpose of this specification.

2.8 Cargo-associated waste means all materials which have become wastes as a result of use on board a ship for cargo stowage and handling. Cargo-associated waste includes but is not limited to dunnage, shoring pallets, lining and packing materials, plywood, paper, cardboard, wire, and steel strapping.

2.9 Maintenance waste means materials collected by the engine department and the deck department while maintaining and operating the vessel, such as soot, machinery deposits, scraped paint, deck sweeping, wiping wastes, oily rags, etc.

2.10 Operational wastes means all cargo-associated wastes and maintenance waste (including ash and clinkers), and cargo residues defined as garbage in 2.13.

2.11 Sludge oil means sludge from fuel and lubricating oil separators, waste lubricating oil from main and auxiliary machinery, waste oil from bilge water separators, drip trays, etc.

2.12 Oily rags are rags which have been saturated with oil as controlled in Annex I to the Convention. Contaminated rags are rags which have been saturated with a substance defined as a harmful substance in the other Annexes to MARPOL 73/78.

2.13 Cargo residues for the purposes of this standard are defined as the remnants of any cargo material on board that cannot be placed in proper cargo holds (loading excess and spillage) or which remains in cargo holds and elsewhere after unloading procedures are completed (unloading residual and spillage). However, cargo residues are expected to be in small quantities.

2.14 Fishing gear is defined as any physical device or part thereof or combination of items that may be placed on or in the water with the intended purpose of capturing, or controlling for subsequent capture, living marine or freshwater organisms.

3 Materials and manufacture:

3.1 The materials used in the individual parts of the incinerator are to be suitable for the intended application with respect to heat resistance, mechanical properties, oxidation, corrosion, etc., as in other auxiliary marine equipment.

3.2 Piping for fuel and sludge oil should be seamless steel of adequate strength and to the satisfaction of the Administration. Short lengths of steel, or annealed copper nickel, nickel copper, or copper pipe and tubing may be used at the burners. The use of nonmetallic materials for fuel lines is prohibited. Valves and fittings may be threaded in sizes up to and including 60 mm O.D. (outside

diameter), but threaded unions are not to be used on pressure lines in sizes 33 mm O.D. (outside diameter) and over.

3.3 All rotating or moving mechanical and exposed electrical parts should be protected against accidental contact.

3.4 Incinerator walls are to be protected with insulated fire bricks/refractory and a cooling system. Outside surface temperature of the incinerator casing being touched during normal operations should not exceed 20°C above ambient temperature.

3.5 Refractory should be resistant to thermal shocks and resistant to normal ship's vibration. The refractory design temperature should be equal to the combustion chamber design temperature plus 20%. (See 4.1)

3.6 Incinerating systems should be designed such that corrosion will be minimized on the inside of the systems.

3.7 In systems equipped for incinerating liquid wastes, safe ignition and maintenance of combustion must be ensured, e.g., by a supplementary burner using gas oil/diesel oil or equivalent.

3.8 The combustion chamber(s) should be designed for easy maintenance of all internal parts including the refractory and insulation.

3.9 The combustion process should take place under negative pressure which means that the pressure in the furnace under all circumstances should be lower than the ambient pressure in the room where the incinerator is installed. A flue gas fan may be fitted to secure negative pressure.

3.10 The incinerating furnace may be charged with solid waste either by hand or automatically. In every case, fire dangers should be avoided and charging should be possible without danger to the operating personnel.

For instance, where charging is carried out by hand, a charging lock may be provided which ensures that the charging space is isolated from the fire box as long as the filling hatch is open.

Where charging is not effected through a charging lock, an interlock should be installed to prevent the charging door from opening while the incinerator is in operation with burning of garbage in progress or while the furnace temperature is above 220°C.

3.11 Incinerators equipped with a feeding sluice or system should ensure that the material charged will move to the combustion chamber. Such system should be designed such that both operator and environment are protected from hazardous exposure.

3.12 Interlocks should be installed to prevent ash removal doors from opening while burning is in progress or while the furnace temperature is above 220°C.

3.13 The incinerator should be provided with a safe observation port of the combustion chamber in order to provide visual control of the burning process and waste accumulation in the combustion

chamber. Neither heat, flame, nor particles should be able to pass through the observation port. An example of a safe observation port is high-temperature glass with a metal closure.

3.14 Electrical requirements¹

3.14.1 Electrical installation requirements should apply to all electrical equipment, including controls, safety devices, cables, and burners and incinerators.

3.14.1.1 A disconnecting means capable of being locked in the open position should be installed at an accessible location at the incinerator so that the incinerator can be disconnected from all sources of potential. This disconnecting means should be an integral part of the incinerator or adjacent to it. (See 5.1)

3.14.1.2 All uninsulated live metal parts should be guarded to avoid accidental contact.

3.14.1.3 The electrical equipment should be so arranged so that failure of this equipment will cause the fuel supply to be shut off.

3.14.1.4 All electrical contacts of every safety device installed in the control circuit should be electrically connected in series. However, special consideration should be given to arrangements when certain devices are wired in parallel.

3.14.1.5 All electrical components and devices should have a voltage rating commensurate with the supply voltage of the control system.

3.14.1.6 All electrical devices and electric equipment exposed to the weather should meet the requirements of international standards acceptable to the Organization²

3.14.1.7 All electrical and mechanical control devices should be of a type tested and accepted by a nationally recognized testing agency, according to international standards.

3.14.1.8 The design of the control circuits should be such that limit and primary safety controls should directly open a circuit that functions to interrupt the supply of fuel to combustion units.

3.14.2 Overcurrent protection

3.14.2.1 Conductors for interconnecting wiring that is smaller than the supply conductors should be provided with overcurrent protection based on the size of the smallest interconnecting conductors external to any control box, in accordance with the requirements of international standards acceptable to the Organization³.

¹ International Electrotechnical Commission (IEC) Standards, particularly IEC Publication 92 - Electrical Installations in Ships and Mobile and Fixed Offshore Units, are applicable for this equipment.

² Refer to IEC Publication 92-201, Table V (1980 edition).

³ Refer to IEC Publication 92-202 (1980 edition with amendment).

3.14.2.2 Overcurrent protection for interconnecting wiring should be located at the point where the smaller conductors connect to the larger conductors. However, overall overcurrent protection is acceptable if it is sized on the basis of the smallest conductors of the interconnecting wiring, or in accordance with the requirements of international standards acceptable to the Organization⁴.

3.14.2.3 Overcurrent protection devices should be accessible and their function should be identified.

3.14.3 Motors

3.14.3.1 All electric motors should have enclosures corresponding to the environment where they are located, at least IP 44, in accordance with the requirements of international standards acceptable to the Organization⁵.

3.14.3.2 Motors should be provided with a corrosion-resistant nameplate specifying information in accordance with the requirements of international standards acceptable to the Organization⁶.

3.14.3.3 Motors should be provided with running protection by means of integral thermal protection, by overcurrent devices, or a combination of both in accordance with manufacturer's instruction that should meet the requirements of international standards acceptable to the Organization⁷.

3.14.3.4 Motors should be rated for continuous duty and should be designed for an ambient temperature of 45°C or higher.

3.14.3.5 All motors should be provided with terminal leads or terminal screws in terminal boxes integral with, or secured to, the motor frames.

3.14.4 Ignition system

3.14.4.1 When automatic electric ignition is provided, it should be accomplished by means of either a high-voltage electric spark, a high-energy electric spark, or a glow coil.

3.14.4.2 Ignition transformers should have an enclosure corresponding to the environment where they are located, at least IP 44 in accordance with the requirements of international standards acceptable to the Organization⁸.

⁴ Refer to IEC Publication 92-202 (1980 edition with amendment).

⁵ Refer to IEC Publication 529 (1976 edition with amendment).

⁶ Refer to IEC Publication 92-301 (1980 edition).

⁷ Refer to IEC Publication 92-202 (1980 edition with amendment).

⁸ Refer to IEC Publication 529 (1976 edition with amendment).

3.14.4.3 Ignition cable should meet the requirements of international standards acceptable to the Organization⁹.

3.14.5 Wiring

3.14.5.1 All wiring for incinerators should be rated and selected in accordance with the requirements of international standards acceptable to the Organization¹⁰.

3.14.6 Bonding and grounding

3.14.6.1 Means should be provided for grounding the major metallic frame or assembly of the incinerators.

3.14.6.2 Noncurrent carrying enclosures, frames and similar parts of all electrical components and devices should be bonded to the main frame or assembly of the incinerator. Electrical components that are bonded by their installation do not require a separate bonding conductor.

3.14.6.3 When an insulated conductor is used to bond electrical components and devices, it should show a continuous green colour, with or without a yellow stripe.

4 Operating requirements

4.1 The incinerator system should be designed and constructed for operation with the following conditions:

Maximum combustion chamber flue gas outlet temperature	1,200°C
Minimum combustion chamber flue gas outlet temperature	850°C
Preheat temperature of combustion chamber	650°C

For Batch Loaded Incinerators, there are no preheating requirements. However, the incinerator should be designed that the temperature in the actual combustion space should reach 600°C within 5 minutes after start.

Prepurge, before ignition:	at least 4 air changes in the chamber(s) and stack, but not less than 15 seconds.
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⁹ Refer to IEC Publication 92-503 (1975 edition).

¹⁰ Refer to IEC Publication 92-352 (1979 edition with amendments).

Time between restarts:	at least 4 air changes in the chamber(s) and stack, but not less than 15 seconds.
Postpurge, after shut-off fuel oil:	not less than 15 seconds after the closing of the fuel oil valve.
Incinerator discharge gases:	Minimum 6% O ₂ (measured in dry flue gas).

4.2 Outside surface of combustion chamber(s) should be shielded from contact such that people in normal work situations will not be exposed to extreme heat (20°C above ambient temperature) or direct contact of surface temperatures exceeding 60°C. Examples for alternatives to accomplish this are a double jacket with an air flow in between or an expanded metal jacket.

4.3 Incinerating systems are to be operated with underpressure (negative pressure) in the combustion chamber such that no gases or smoke can leak out to the surrounding areas.

4.4 The incinerator should have warning plates attached in a prominent location on the unit, warning against unauthorized opening of doors to combustion chamber(s) during operation and against overloading the incinerator with garbage.

4.5 The incinerator should have instruction plate(s) attached in a prominent location on the unit that clearly addresses the following:

4.5.1 Cleaning ashes and slag from the combustion chamber(s) and cleaning of combustion air openings before starting the incinerator (where applicable).

4.5.2 Operating procedures and instructions. These should include proper start-up procedures, normal shut-down procedures, emergency shut-down procedures, and procedures for loading garbage (where applicable).

4.6 To avoid building up of dioxins, the flue gas should be shock-cooled to a maximum 350°C within 2.5 metres from the combustion chamber flue gas outlet.

5 Operating controls

5.1 The entire unit should be capable of being disconnected from all sources of electricity by means of one disconnect switch located near the incinerator. (See 3.14.1.1)

5.2 There should be an emergency stop switch located outside the compartment which stops all power to the equipment. The emergency stop switch should also be able to stop all power to the fuel pumps. If the incinerator is equipped with a flue gas fan, the fan should be capable of being restarted independently of the other equipment on the incinerator.

5.3 The control equipment should be so designed that any failure of the following equipment will prevent continued operations and cause the fuel supply to be cut off.

5.3.1 Safety thermostat/draft failure

5.3.1.1 A flue gas temperature controller, with a sensor placed in the flue gas duct, should be provided that will shut down the burner if the flue gas temperature exceeds the temperature set by the manufacturer for the specific design.

5.3.1.2 A combustion temperature controller, with a sensor placed in the combustion chamber, should be provided that will shut down the burner if the combustion chamber temperature exceeds the maximum temperature.

5.3.1.3 A negative pressure switch should be provided to monitor the draft and the negative pressure in the combustion chamber. The purpose of this negative pressure switch is to ensure that there is sufficient draft/negative pressure in the incinerator during operations. The circuit to the program relay for the burner will be opened and an alarm activated before the negative pressure rises to atmospheric pressure.

5.3.2 Flame failure/fuel oil pressure

5.3.2.1 The incinerator should have a flame safeguard control consisting of a flame sensing element and associated equipment for shut down of the unit in the event of ignition failure and flame failure during the firing cycle. The flame safeguard control should be so designed that the failure of any component will cause a safety shut down.

5.3.2.2 The flame safeguard control should be capable of closing the fuel valves in not more than 4 seconds after a flame failure.

5.3.2.3 The flame safeguard control should provide a trial-for-ignition period of not more than 10 seconds during which fuel may be supplied to establish flame. If flame is not established within 10 seconds, the fuel supply to the burners should be immediately shut off automatically.

5.3.2.4 Whenever the flame safeguard control has operated because of failure of ignition, flame failure, or failure of any component, only one automatic restart may be provided. If this is not successful then manual reset of the flame safeguard control should be required for restart.

5.3.2.5 Flame safeguard controls of the thermostatic type, such as stack switches and pyrostats operated by means of an open bimetallic helix, are prohibited.

5.3.2.6 If fuel oil pressure drops below that set by the manufacturer, a failure and lock out of the program relay should result. This also applies to a sludge oil burner. (Applies where pressure is important for the combustion process or a pump is not an integral part of the burner.)

5.3.3 Loss of power

If there is a loss of power to the incinerator control/alarm panel (not remote alarm panel), the system should shut down.

5.4 Fuel supply

Two fuel control solenoid valves should be provided in series in the fuel supply line to each burner. On multiple burner units, a valve on the main fuel supply line and a valve at each burner will satisfy this requirement. The valves should be connected electrically in parallel so that both operate simultaneously.

5.5 Alarms

5.5.1 An outlet for an audible alarm should be provided for connection to a local alarm system or a central alarm system. When a failure occurs, a visible indicator should show what caused the failure. (The indicator may cover more than one fault condition.)

5.5.2 The visible indicators should be designed so that, where failure is a safety related shutdown, manual reset is required.

5.6 After shutdown of the oil burner, provision should be made for the fire box to cool sufficiently. (As an example, of how this may be accomplished, the exhaust fan or ejector could be designed to continue to operate. This would not apply in the case of an emergency manual trip.)

6 Other requirements

6.1 Documentation

A complete instruction and maintenance manual with drawings, electric diagrams, spare parts list, etc., should be furnished with each incinerator.

6.2 Installation

All devices and components should, as fitted in the ship, be designed to operate when the ship is upright and when inclined at any angle of list up to and including 15° either way under static conditions and 22.5° under dynamic conditions (rolling) either way and simultaneously inclined dynamically (pitching) 7.5° by bow or stern.

6.3 Incinerator

6.3.1 Incinerators are to be fitted with an energy source with sufficient energy to ensure a safe ignition and complete combustion. The combustion is to take place at sufficient negative pressure in the combustion chamber(s) to ensure no gases or smoke leaking out to the surrounding areas. (See 5.3.1.3)

6.3.2 A drip tray is to be fitted under each burner and under any pumps, strainers, etc., that require occasional examination.

7 Tests

7.1 Prototype tests

An operating test for the prototype of each design should be conducted, with a test report completed indicating results of all tests. The tests should be conducted to ensure that all of the control components have been properly installed and that all parts of the incinerator, including controls and safety devices, are in satisfactory operating condition. Tests should include those described in section 7.3 below.

7.2 Factory tests

For each unit, if preassembled, an operating test should be conducted to ensure that all of the control components have been properly installed and that all parts of the incinerator, including controls and safety devices, are in satisfactory operating condition. Tests should include those described in 7.3 below.

7.3 Installation tests

An operating test after installation should be conducted to ensure that all of the control components have been properly installed and that all parts of the incinerator, including controls and safety devices, are in satisfactory operating condition. The requirements for prepurge and time between restarts referred to in 4.1 should be verified at the time of the installation test.

7.3.1 Flame safeguard. The operation of the flame safeguard system should be verified by causing flame and ignition failures. Operation of the audible alarm (where applicable) and visible indicator should be verified. The shutdown times should be verified.

7.3.2 Limit controls. Shutdown due to the operation of the limit controls should be verified.

7.3.2.1 Oil pressure limit control. The lowering of the fuel oil pressure below the value required for safe combustion should initiate a safety shutdown.

7.3.2.2 Other interlocks. Other interlocks provided should be tested for proper operation as specified by the unit manufacturer.

7.3.3 Combustion controls. The combustion controls should be stable and operate smoothly.

7.3.4 Programming controls. Programming controls should be verified as controlling and cycling the unit in the intended manner. Proper prepurge, ignition, postpurge, and modulation should be verified. A stopwatch should be used for verifying intervals of time.

7.3.5 Fuel supply controls. The satisfactory operation of the two fuel control solenoid valves for all conditions of operation and shutdown should be verified.

7.3.6. Low voltage test. A low voltage test should be conducted on the incinerator unit to satisfactorily demonstrate that the fuel supply to the burners will be automatically shut off before an incinerator malfunction results from the reduced voltage.

7.3.7 Switches. All switches should be tested to verify proper operation.

8 Certification

8.1 Manufacturer's certification that an incinerator has been constructed in accordance with this standard should be provided (by letter, certificate, or in the instruction manual).

9 Marking

9.1 Each incinerator should be permanently marked indicating:

9.1.1 Manufacturer's name or trademark.

9.1.2 Style, type, model or other manufacturer's designation for the incinerator.

9.1.3 Capacity - to be indicated by net designed heat release of the incinerator in heat units per timed period; for example, British Thermal Units per hour, megajoules per hour, kilocalories per hour.

10 Quality assurance

Incinerators should be designed, manufactured and tested in a manner that ensures they meet the requirements of this standard.

A1 - EMISSION STANDARD FOR SHIPBOARD INCINERATORS WITH CAPACITIES OF UP TO 1,500 kW

Minimum information to be provided

A1.1 An IMO TYPE APPROVAL CERTIFICATE should be required for each shipboard incinerator. In order to obtain such certificate, the incinerator should be designed and built to an IMO approved standard. Each model should go through a specified type approval test operation at the factory or an approved test facility, and under the responsibility of the Administration.

A1.2 TYPE APPROVAL TEST SHOULD INCLUDE MEASURING OF THE FOLLOWING PARAMETERS:

Max capacity	:	kW or kcal/h kg/h of specified waste kg/h per burner
Pilot fuel consumption	:	kg/h per burner
O ₂ Average in combustion chamber/zone	:	%
CO Average in flue gas:		mg/MJ
Soot number average	:	Bacharach or ringelman Scale
Combustion chamber flue gas		

outlet temperature average : °C
Amount of unburned components in ashes : % by weight

A1.3 DURATION OF TEST OPERATION

For sludge oil burning : 6-8 hours
For solid waste burning : 6-8 hours

A1.4 FUEL/WASTE SPECIFICATION FOR TYPE APPROVAL TEST (% BY WEIGHT)

Sludge oil consisting of: 75% sludge oil from heavy fuel oil
5% waste lubricating oil
20% emulsified water

Solid waste (class 2) consisting of: 50% Food Waste
50% rubbish Containing
Approx. 30% paper,
" 40% Cardboard,
" 10% Rags,
" 20% Plastic
The mixture will have up to 50% moisture and 7% incombustible solids

Classes of waste

Reference: Waste Classification from Incinerator Institute of America (Information for type approval tests only)

Class 2 Refuse, consisting of approximately even mixture of rubbish and garbage by weight. This type waste is common to passenger ships occupancy, consisting of up to 50% moisture, 7% incombustible solids and has a heating value of about 10,000 kJ/kg as fired.

Calorific values	kJ/Kg	kcal/kg
Vegetable and putrescibles	5,700	1,360
Paper	14,300	3,415
Rag	15,500	3,700
Plastics	36,000	8,600
Oil sludge	36,000	8,600
Sewage sludge	3,000	716
Densities	kg/m³	
Paper (loose)	50	
Refuse (75% wet)	720	
Dry rubbish	110	

Scrap wood	190
Wood sawdust	220

Density of loose general waste generated on board ship will be about 130 kg/m³.

A1.5 REQUIRED EMISSION STANDARDS TO BE VERIFIED BY TYPE APPROVAL TEST

O ₂ in combustion chamber	6 - 12%
CO in flue gas maximum average	200 mg/MJ
Soot number maximum average	BACHARACH 3 or RINGELMAN 1 (A higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues	Max 10% by Weight
Combustion chamber flue gas outlet temperature range	850 - 1200°C

Flue gas outlet temperature and O₂ content should be measured during the combustion period, and not during the preheating or cooling periods. For a batch loaded incinerator, it is acceptable to carry out the type approval test by means of a single batch.

A high temperature in the actual combustion chamber/zone is an absolute requirement in order to obtain a complete and smoke free incineration, including that of plastic and other synthetic materials while minimizing DIOXINE, VOC (Volatile Organic Compounds), and emissions.

A1.6 FUEL RELATED EMISSION

A1.6.1 Even with good incineration technology the emission from an incinerator will depend on the type of material being incinerated. If for instance a vessel has bunkered a fuel with high sulphur content, then sludge oil from separators which is burned in the incinerator will lead to emission of SO_x. But again, the SO_x emission from the incinerator would only amount to less than one per cent of the SO_x discharged with the exhaust from main and auxiliary engines.

A1.6.2 Principal organic constituents (POC) cannot be measured on a continuous basis. Specifically, there are no instruments with provision for continuous time telemetry that measures POC, HCl, or waste destruction efficiency, to date. These measurements can only be made using grab sample approaches where the sample is returned to a laboratory for analysis. In the case of organic constituents (undestroyed wastes), the laboratory work requires considerable time to complete. Thus, continuous emission control can only be assured by secondary measurements.

A1.6.3 ON-BOARD OPERATION/EMISSION CONTROL

For a shipboard incinerator with IMO TYPE APPROVAL, emission control/monitoring should be limited to the following:

- .1 Control/monitor O₂ content in combustion chamber (spot checks only; an O₂ content analyser is not required to be kept on board).
- .2 Control/monitor temperature in combustion chamber flue gas outlet.

By continuous (auto) control of the incineration process, ensure that the above mentioned two parameters are kept within the prescribed limits. This mode of operation will ensure that particulates and ash residue contain only traces of organic constituents.

A1.7 PASSENGER/CRUISE SHIPS WITH INCINERATOR INSTALLATIONS HAVING A TOTAL CAPACITY OF MORE THAN 1,500 kW

A1.7.1 On board this type of vessel, the following conditions will probably exist:

- .1 Generation of huge amounts of burnable waste with a high content of plastic and synthetic materials.
- .2 Incinerating plant with a high capacity operating continuously over long periods.
- .3 This type of vessel will often be operating in very sensitive coastal areas.

A1.7.2 In view of the fuel related emission from a plant with such a high capacity, installation of a flue gas sea water scrubber should be considered. This installation can perform an efficient after-cleaning of the flue gases, thus minimizing the content of:

HCl
SO_x
PARTICULATE MATTER

A1.7.3 Any restriction on NITROGEN OXIDE (NO_x) should only be considered in connection with possible future regulations on pollution from the vessel's total pollution, i.e., main and auxiliary machinery, boilers, etc.

A2 - FIRE PROTECTION REQUIREMENTS FOR INCINERATORS AND WASTE STOWAGE SPACES

For the purpose of construction, arrangement and insulation, incinerator spaces and waste stowage spaces should be treated as category A machinery spaces (SOLAS II-2/3.19) and service spaces, (SOLAS II-2/3.12), respectively. To minimize the fire hazards these spaces represent, the following SOLAS requirements in chapter II-2 should be applied:

A2.1 For passenger vessels carrying more than 36 passengers:

- .1 regulation 26.2.2(12) should apply to incinerator and combined incinerator/waste storage spaces, and the flue uptakes from such spaces; and
- .2 regulation 26.2.2(13) should apply to waste storage spaces and garbage chutes connected thereto.

A2.2 For all other vessels including passenger vessels carrying not more than 36 passengers:

- .1 regulation 44.2.2(6) should apply to incinerator and combined incinerator/waste spaces, and the flue uptakes from such spaces; and
- .2 regulation 44.2.2(9) should apply to waste storage spaces and garbage chutes connected thereto.

A2.3 Incinerators and waste storage spaces located on weather decks (regulation II-2/3.(17)) need not meet the above requirements but should be located:

- .1 as far aft on the vessel as possible;
- .2 not less than 3 m from entrances, air inlets and openings to accommodations, service spaces and control stations;
- .3 not less than 5 m measured horizontally from the nearest hazardous area, or vent outlet from a hazardous area; and
- .4 not less than 2 m should separate the incinerator and the waste material storage area, unless physically separated by a structural fire barrier.

A2.4 A fixed fire detection and fire-extinguishing system should be installed in enclosed spaces containing incinerators, in combined incinerator/waste storage spaces, and in any waste storage space in accordance with the following table:

	Automatic sprinkler system	Fixed fire-extinguishing system	Fixed fire detection system
Combined incinerator and waste storage space	X		
Incinerator space		X	X
Waste storage space	X		

A2.5 Where an incinerator or waste storage space is located on weather decks it must be accessible with two means of fire extinguishment; either fire hoses, semi-portable fire extinguishers, fire monitors

or combination of any two of these extinguishing devices. A fixed fire-extinguishing system is acceptable as one means of extinguishment.

A2.6 Flue uptake piping/ducting should be led independently to an appropriate terminus via a continuous funnel or trunk.

A3 - INCINERATORS INTEGRATED WITH HEAT RECOVERY UNITS

A3.1 The flue gas system, for incinerators where the flue gas is led through a heat recovery device, should be designed so that the incinerator can continue operation with the economizer coils dry. This may be accomplished with bypass dampers if needed.

A3.2 The incinerator unit should be equipped with a visual and an audible alarm in case of loss of feed-water.

A3.3 The gas-side of the heat recovery device should have equipment for proper cleaning. Sufficient access should be provided for adequate inspection of external heating surfaces.

A4 - FLUE GAS TEMPERATURE

A4.1 When deciding upon the type of incinerator, consideration should be given as to what the flue gas temperature will be. The flue gas temperature can be a determining factor in the selection of materials for fabricating the stack. Special high temperature material may be required for use in fabricating the stack when the flue gas temperatures exceed 430°C.

ANNEX

FORM OF IMO TYPE APPROVAL CERTIFICATE FOR SHIPBOARD
INCINERATORS WITH CAPACITIES OF UP TO 1,500 KW

CERTIFICATE OF SHIPBOARD INCINERATOR

NAME OF ADMINISTRATION

BADGE
OR
CYPHER

This is to certify that the shipboard incinerator listed has been examined and tested in accordance with the requirement of the standard for shipboard incinerators for disposing of ship-generated waste appended to the Guidelines for the Implementation of Annex V of MARPOL 73/78.

Incinerator manufactured by	
Style, type or model for the incinerator*	
Max. capacity	kW or kcal/h
.....	kg/h of specified waste
.....	kg/h per burner
O ₂ Average	
in combustion chamber/zone	%
CO Average in flue gas	mg/MJ
Soot number average	Bacharach or ringelman scale
Combustion chamber flue gas	
outlet temperature average	°C
Amount of unburned components	
in ashes	% by weight

A copy of this certificate should be carried on board a vessel fitted with this equipment at all times.

Official stamp	Signed
	Administration of

Dated this day of 19 ..

* Delete as appropriate

ANNEX 9

DRAFT ASSEMBLY RESOLUTION

**GUIDELINES FOR FACILITATION OF RESPONSE TO AN OIL POLLUTION INCIDENT
PURSUANT TO ARTICLE 7 AND ANNEX OF THE INTERNATIONAL CONVENTION
ON OIL POLLUTION PREPAREDNESS, RESPONSE AND CO-OPERATION, 1990**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to guidelines concerning the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.625 (15) concerning the arrangements for the entry and clearance of marine pollution response resources during emergency situations,

BEING AWARE of the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC Convention), in particular, article 7, *inter alia*, stipulates that each Party to the OPRC Convention shall take necessary legal or administrative measures to facilitate: the arrival and utilization in and departure from its territory of ships, aircraft and other modes of transport engaged in responding to an oil pollution incident or transporting personnel, cargoes, materials and equipment required to deal with such an incident; and the expeditious movement into, through, and out of its territory of such personnel, cargoes, materials and equipment,

BEING AWARE ALSO that the Annex to the OPRC Convention makes provision for reimbursement of costs of assistance,

BEING AWARE FURTHER that experience in responding to a major oil pollution incident requiring resources out side a country has clearly demonstrated the critical importance of administrative procedures to facilitate rapid provision of assistance and deployment of human resources and equipment,

NOTING the decisions and recommendations made by the Marine Environment Protection Committee at its thirty-eighth session,

1. ADOPTS the Guidelines for Facilitation of Response to an Oil Pollution Incident set out in the Annex to the present resolution;
2. URGES Contracting Parties to the above-mentioned OPRC Convention to implement the Guidelines;
3. URGES ALSO all Member Governments to implement the Guidelines;
4. REQUESTS the Marine Environment Protection Committee to keep the Guidelines under review taking into account experience gained in their use.

ANNEX

**GUIDELINES FOR FACILITATION OF RESPONSE TO AN OIL POLLUTION INCIDENT
PURSUANT TO ARTICLE 7 AND ANNEX OF THE INTERNATIONAL CONVENTION
ON OIL POLLUTION PREPAREDNESS, RESPONSE AND CO-OPERATION, 1990**

1. If a State needs assistance in the event of an oil pollution incident, it may ask for assistance from other States, indicating the scope and type of assistance required. A State to which a request for assistance is directed should promptly decide and inform the requesting State whether it is in a position to render the assistance required and indicated the scope and terms of the assistance that might be rendered.
2. The States concerned should co-operate to facilitate the prompt provision of assistance agreed to under paragraph 1 of these Guidelines, including, where appropriate, action to minimize the consequences and effects of the oil pollution incident, and to provide general assistance. Where States do not have bilateral or multilateral agreements which cover their arrangements for providing mutual assistance, the assistance should be rendered in accordance with the following provisions, unless the States agree otherwise.
3. The requesting State is responsible for overall supervision, control and co-ordination of the response to the incident and assistance supplied. Personnel sent by the assisting State are normally in charge of the immediate operational supervision of its personnel and equipment. The personnel involved in the assisting operation should act in accordance with the relevant laws of the requesting State which should endeavour to inform the assisting State of the relevant laws. The appropriate authorities of the requesting State shall co-operate with the authority designated by the assisting State.
4. The requesting State should, to the extent of its capabilities, provide local facilities and services for the proper and effective administration of the assistance including decontamination activities, and should ensure the protection and return of personnel, equipment and materials brought into its territory by, or on behalf of, the assisting State for such a purpose.
5. The requesting State should use its best efforts to afford to the assisting State and persons acting on its behalf the privileges, immunities or facilities necessary for the expeditious performance of their assistance function. The requesting State should not be required to apply this provision to its own nationals or permanent residents or to afford them the privileges and immunities referred to above.
6. A State should, at the request of the requesting or assisting State, endeavour to facilitate the transit through its territory of duly notified personnel, equipment and property involved in the assistance to and from the requesting State.

7. The requesting State should facilitate the entry into, stay in and departure from its national territory of duly notified personnel and of equipment and property involved in the assistance.

8. With regard to actions resulting directly from the assistance provided, the requesting State should reimburse the assisting State for the loss or any damage to equipment or other property belonging to the assisting State. The requesting State should also reimburse the assisting State for expenses involved in the assistance for the death of, or injury to persons or the loss or damage to property incurred by personnel acting on behalf of the assisting State. This would not prevent the requesting State from seeking reimbursement as part of its claim under the appropriate compensation convention.

9. The States concerned should co-operate closely in order to facilitate the settlement of legal proceedings and claims which could result from assistance operations.

10. The affected or requesting State may at any time, after appropriate consultations and by notification, request the termination of assistance received or provided under this Convention. Once such a request has been made, the States concerned should consult one another with a view to making arrangements of the proper termination of the assistance.

11. As the assistance should not be delayed for administrative or other reasons, the necessary legislation should be adopted during the preparedness phase, i.e., before the incident which would require assistance. This is particularly relevant to paragraphs 4 to 8 above.

12. Similar facilitation should be implemented by States concerned when personnel or equipment are provided on behalf of a shipowner, a cargo owner or other relevant entities.

13. In some oil pollution incidents, a shipowner, cargo owner or other private entity may be best placed to call upon dedicated equipment, materials and trained operators to assist with the clean-up response. In order to benefit from the availability of such resources and to ensure their rapid deployment, the State requesting or being offered assistance should facilitate the entry, clearance and subsequent return of persons, materials and equipment provided. Public authorities should, in so far as it is possible, waive customs and excise duties and other taxes on any equipment and materials provided on a temporary basis for the purpose of assisting in the response to an oil pollution incident.

ANNEX 10**STATEMENT BY THE REPRESENTATIVE OF THE INTERNATIONAL
ATOMIC ENERGY AGENCY (IAEA)****The Joint Convention on the Safety of Spent Fuel Management
and on the Safety of Radioactive Waste Management****Introduction**

1 In June 1997, the IAEA Board of Governors authorized the Director General to convene a diplomatic conference in September 1997 for the purpose of adopting a Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. This decision was based on recommendations made by the Director General to the Board following the finalization of a draft text of a Convention by a group of legal and technical experts established by the Board in 1994.

2 The Conference was opened on 1 September by the Director General acting as Secretary-General of the Conference. The Conference elected Mr. A.J. Baer (Switzerland) as President of the Conference and Vice-Presidents from Canada, Colombia, Croatia, Indonesia, Japan, Jordan, Morocco and Turkey.

3 Eighty-four States participated in the Conference. The Agency, UNEP (Secretariat of the Basel Convention), WHO, OECD/NEA and the European Commission attended as observers.

4 On 5 September the Conference adopted the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The Final Act of the Conference was signed by representatives of 65 States.

5 This achievement marks the successful conclusion of a process started three years ago. From the beginning there has been a wide consensus on the safety aspects of the convention and it is notable that with a convention of such wide ranging application there were only two issues on which agreement was difficult to reach. One of these concerns the transboundary movement of radioactive waste and spent fuel and in particular the requirement of notification of a State of transit through whose territory a shipment of spent fuel or radioactive waste takes place. A resolution adopted as part of the Final Act of the Conference, *inter alia*, urges all States parties to the Convention to take into full consideration the IAEA regulations for the Safe Transport of Radioactive Material (1996) which provide under certain circumstances for such notification.

6 The resolution also invited the Agency, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with the specialized organizations concerned, to keep under review the existing rules and regulations with respect to the safety of the transboundary movement of spent fuel and radioactive waste. It should be noted that the Agency's ongoing review and revision process for the transport regulations provides such opportunity.

7 The Convention applies to spent fuel and radioactive waste resulting from civilian nuclear reactors and applications. Spent fuel held at reprocessing facilities as part of a reprocessing activity is not included unless the Contracting Party declares reprocessing to be part of spent fuel management. The Convention also applies to spent fuel and radioactive waste from military or defence programmes

if and when such materials are transferred permanently to and managed within exclusively civilian programmes, or when declared as spent fuel or radioactive waste for the purpose of the Convention by the Contracting party. The Convention also applies to both planned and controlled releases into the environment of liquid or gaseous radioactive materials from regulated nuclear facilities. The obligations of the Contracting Parties with respect to the safety of spent fuel and radioactive waste management include the obligation to establish and maintain a legislative and regulatory framework to govern the safety of spent fuel and radioactive waste management and the obligation to ensure that individuals, society and the environment are adequately protected against radiological and other hazards, *inter alia*, by appropriate siting, design and construction of facilities and by making provisions for ensuring the safety of facilities both during their operation and after their closure. The Convention imposes obligations on Contracting Parties in relation to the transboundary movement of spent fuel and radioactive waste. Also, Contracting Parties have the obligation to take appropriate steps to ensure that disused sealed sources are managed safely.

8 The Convention will be open for signature from 29 September 1997, the opening day of the Agency's Annual General Conference.

Thank you, Mr. Chairman.

ANNEX 11

DRAFT ASSEMBLY RESOLUTION

**AMENDMENTS TO THE CODE FOR THE SAFE CARRIAGE OF IRRADIATED
NUCLEAR FUEL, PLUTONIUM AND HIGH-LEVEL RADIOACTIVE WASTES
IN FLASKS ON BOARD SHIP**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the function of this Assembly in relation to regulations and guidelines concerning maritime safety, the prevention and control of marine pollution from ships, and other matters concerning the effect of shipping on the marine environment,

RECALLING further resolution A.748(18) by which the Assembly adopted the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes in Flasks on Board Ships (INF Code) and, at the same time, requested the Maritime Safety Committee (MSC) and the Marine Environment Protection Committee (MEPC), in consultation with the International Atomic Energy Agency (IAEA), to keep the INF Code under regular review and to amend it as necessary,

RECALLING ALSO resolution A.790(19) in which the Assembly, after consideration of the progress of work made to it, again requested the MSC and MEPC, in consultation with IAEA and the United Nations Environment Programme, as appropriate, to continue the review of the INF Code as a matter of urgency and to consider, bearing in mind existing international instruments, several specific issues, including in particular the adequacy of existing emergency response arrangements and notification of the coastal States concerned in the event of an incident involving INF Code materials,

NOTING the report by the Secretary-General (A 20/11/Add.2) on the progress of work made pursuant to resolutions A.748(18) and A.790(19),

HAVING CONSIDERED the recommendations made by the MSC at its sixty-eighth session and by the MEPC at its thirty-ninth session and fortieth session:

1. ADOPTS amendments to the INF Code on shipboard emergency plans and on notification in the event of an incident involving materials subject to the Code as set out at Annex to this resolution;
2. URGES Governments to implement these amendments; and
3. REQUESTS the MSC and the MEPC in consultation with IAEA and UNEP to complete the work pursuant to resolution A.790(19) as a matter of urgency and to consider possible improvements to the amended Code based, *inter alia*, on experience gained in its use.

ANNEX

**TEXT OF AMENDMENTS TO THE CODE FOR THE SAFE CARRIAGE
OF IRRADIATED NUCLEAR FUEL, PLUTONIUM AND HIGH-LEVEL
RADIOACTIVE WASTES IN FLASKS ON BOARD SHIPS (INF CODE)**

Amend paragraph 4 to read as follows:

"All ships, regardless of size, carrying materials covered by this Code should comply with the requirements of SOLAS 74, as amended, and in addition with the requirements as prescribed in table 1 and paragraphs 7 to 30, concerning damage stability, fire protection, temperature control of cargo spaces, structural considerations, cargo securing arrangements, electrical supplies, radiological protection equipment, management training, shipboard emergency plans and notification in the event of an incident involving INF Code materials."

Amend paragraph 25 and its title to read as follows:

"MANAGEMENT AND TRAINING

25 The management and training for a ship should take account of developments within the Organization to the satisfaction of the Administration concerned."

Add the following paragraphs and associated titles:

"SHIPBOARD EMERGENCY PLANS

26 Every ship, after 1 July 1998, transporting materials covered by this Code should carry on board a shipboard emergency plan.

27 Such a plan should be approved by the Administration based on the Guidelines¹ developed by the Organization and written in a working language understood by the masters and officers. At a minimum, the plan should consist of:

- .1 the procedure to be followed by the master or other persons having charge of the ship to report an incident involving INF Code materials, as required by paragraphs 29 and 30 of this Code;
- .2 the list of authorities or persons to be contacted in the event of an incident involving INF Code materials;

¹Refer to "Guidelines for Developing Shipboard Emergency Plans for Ships Carrying Materials Subject to the INF Code adopted by the Assembly by resolution A...(…)"

- .3 a detailed description of the action to be taken immediately by persons on board to prevent, reduce or control the release, and mitigate the consequences of the loss, of INF Code materials following the incident; and
 - .4 the procedures and points of contact on the ship for co-ordinating shipboard action with national and local authorities.
- 28 If a ship is required to have a shipboard emergency plan by other international instruments, the various plans may be combined into a single plan. In this case, the title of such a combined plan should be "Shipboard Marine Emergency Plan".

NOTIFICATION IN THE EVENT OF AN INCIDENT INVOLVING INF CODE MATERIALS

- 29 The reporting requirements of regulation VII/7-1 of SOLAS should apply both to the loss or likely loss of INF Code cargo overboard and to any incident involving a release or probable release of INF Code material (e.g. package failure), whatever the reason for such loss or release, including for the purpose of securing the safety of the ship or saving life at sea.
- 30 Such a report should also be made in the event of damage, failure or breakdown of a ship carrying materials covered by this Code which:
- .1 affects the safety of the ship, including allusion, collision, grounding, fire, explosion, structural failure, flooding and cargo shifting; or
 - .2 results in the impairment of the safety of navigation, including the failure or breakdown of steering gear, propulsion system, electrical generating system, and essential shipborne navigational aids."

Replace table 1 with the following

Table 1: Requirements for ships carrying irradiated nuclear fuel, plutonium and high level radioactive wastes in flasks on board ships

Ship *** class	Damage stability		Fire protection		Temperature control of cargo spaces	Structural considerations	Cargo securing arrangements	Electrical supplies	Radiological protection equipment	Management training	Shipboard Emergency Plans	Notification in the event of an incident
	Passenger ships*	Cargo ships	Passenger ships*	Cargo ships								
INF 1	7	7	11	11	14 + 15 + 16	17	18 + 19	20	24	25	26+27+28	29+30
INF 2	8	9	13	13	14 + 15 + 16	17	18 + 19	21 + 22	24	25	26+27+28	29+30
INF 3	N/A	10	N/A	12 + 13	14 + 15 + 16	17	18 + 19	21 + 22 + 23	24	25	26+27+28	29+30

ANNEX 12

DRAFT ASSEMBLY RESOLUTION

**GUIDELINES FOR DEVELOPING SHIPBOARD EMERGENCY PLANS
FOR SHIPS CARRYING MATERIALS SUBJECT TO THE INF CODE**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the function of this Assembly in relation to regulations and guidelines concerning maritime safety, the prevention and control of marine pollution from ships, and other matters concerning the effect of shipping on the marine environment,

HAVING ADOPTED by resolution A....(..), amendments to the INF Code on shipboard emergency plans and notification in the event of an incident involving materials subject to the Code,

RECOGNIZING the need to have a consistent approach to the development of shipboard emergency plans,

HAVING CONSIDERED the recommendations made by the MSC at its sixty-eighth session and by the MEPC at its thirty-ninth session and fortieth session:

1. ADOPTS the Guidelines for Developing Shipboard Emergency Plans for Ships Carrying Materials subject to the INF Code set out at Annex to this resolution; and
2. URGES Governments, in implementing the provisions referring to this subject in the INF Code, to use the Guidelines set out at Annex to this resolution.

ANNEX

GUIDELINES FOR DEVELOPING SHIPBOARD EMERGENCY PLANS FOR SHIPS CARRYING MATERIALS SUBJECT TO THE INF CODE

Foreword

These Guidelines, prepared by the Marine Environment Protection Committee of the International Maritime Organization (IMO) contain information for the preparation of Shipboard Emergency Plans for Ships Carrying Materials Subject to the IMO Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium, and High-Level Radioactive Wastes in Flasks on board Ships (INF Code). These Guidelines were developed as part of the work assigned by the Assembly to the Committees regarding the review and amendment of the INF Code.

The main objectives of these Guidelines are:

- to assist shipowners in preparing comprehensive Shipboard Emergency Plans for ships carrying INF Code materials; and
- to assist in responding to shipboard emergencies involving INF Code materials and in providing information in accordance with international law to authorities involved in assisting or handling incidents at sea involving INF Code materials.

In the interest of uniformity, Governments are requested to refer to these Guidelines when preparing appropriate national regulations. While in port or an offshore terminal, the carriage of a shipboard emergency plan for ships carrying materials subject to the INF Code should be subject to inspection by duly authorized officers.

The type of emergency planning and preparedness that is needed for responding to transport incidents involving INF Code materials is, to some extent, similar to that required for responding to transport accidents involving nonradioactive hazardous or noxious substances. Accordingly, emergency response organizations and personnel may apply the concepts used to respond to incidents involving other types of hazardous or noxious substances, employing special knowledge, skills and equipment to deal effectively with the wide range of possible consequences of incidents involving INF Code materials.

In the case where a ship is required to have a shipboard emergency plan by other international instruments, the plan provided for in these Guidelines may be combined with such other plans. In this case, the title of such a combined plan should be "Shipboard Marine Emergency Plan".

1 INTRODUCTION

1.1 These Guidelines have been developed to assist in the preparation of Shipboard Emergency Plans for Ships carrying materials subject to the INF Code ("Plan(s)"). These Guidelines were developed as part of the work assigned by the Assembly regarding the review and amendment of the INF Code, particularly in view of paragraph 27 of the Code. The Plan(s) should be approved in accordance with the Code.

1.2 Definitions for the Purpose of these Guidelines.

1.2.1 Incident means any occurrence or series of occurrences, including loss of container integrity, having the same origin which results or may result in a release, or probable cargo release of INF Code materials.

1.2.2 Shipboard Emergency Plan or Plan means a document that is tailored to a particular ship carrying INF Code materials and contains the procedures to be followed to ensure shipboard preparedness for responding to emergencies.

1.2.3 Release means the escape of INF Code materials from its containment system or the loss of an INF Code package.

1.3 The Guidelines are comprised of three sections:

- .1 Introduction: This section provides a general overview of the subject matter and introduces the reader to the basic concept of the Guidelines and the Plans that are expected to be developed from them.
- .2 Essential Provisions: This section provides those elements that should, at a minimum, be included in a Plan.
- .3 Additional Provisions: This section provides guidance concerning the inclusion of other information in the Plan. Such information may be required by local authorities in ports visited by the ship, or it may be added to provide additional assistance to the ship's master when responding to an emergency situation. The section also provides guidance on updating and training and exercises to test the plan.

1.4 **Concept of the Guidelines:** The Guidelines are intended to provide a starting point for the preparation of specific Shipboard Emergency Plans for each ship engaged in transporting INF Code materials. Plan writers are cautioned that they should consider in their Plans the many variables that apply to their ships. Some of these variables include: type and size of ship, category of INF Code materials and its physical properties, route, and shore-based management structure. The Guidelines are not intended to be a compilation of menu items from which the Plan writer can select certain sections and produce a workable Plan, but rather a process to insure preparedness for responding to emergencies. For a Plan to be effective, it should be carefully tailored to the particular ship for which it is intended. Properly used, the Guidelines will ensure that all appropriate issues are considered in developing the Plan.

1.5 **Concept of the Plan:** The Plan is available to assist personnel in avoiding the further escalation of an incident and in dealing with an actual or potential release of INF Code materials. Its primary purpose is to set in motion the necessary actions to avoid or minimize a release and to mitigate its effects. Regardless of the magnitude of an incident, effective planning ensures that the necessary actions are taken in a structured, logical, safe, and timely manner.

1.5.1 The Plan should provide for small or routine emergencies. However, it should also include guidance to assist the master in meeting the demands of a large scale incident, should the ship become involved in one.

1.5.2 The need for a predetermined and properly structured Plan is clear when one considers the pressures and multiple tasks facing personnel confronted with an emergency situation. In the heat of the moment, lack of proper planning will often result in confusion, mistakes, and failure to advise key people. Delays will be incurred and time will be wasted; time during which the situation may well worsen. As a consequence, the ship, its personnel, and the public may be exposed to increasing hazards, and greater environmental damage may result.

1.5.3 Shipboard Emergency Plans should be realistic, practical, and easy to use. They should be understood by ship management personnel, both onboard and ashore, and be evaluated, reviewed, and updated regularly.

1.5.4 The Plan envisioned is intended to be a simple document. Use of summarizing flow charts or checklists to guide the master through the various actions and decisions required during an incident response is highly encouraged. These can provide a quickly visible and logically sequenced form of information which can reduce error and oversight during emergency situations. Inclusion of extensive background information on the ship or cargo should be avoided as this is generally available elsewhere. If such information is relevant, it should be kept in annexes where it will not dilute the ability of ship personnel to locate operative parts of the Plan.

1.5.5 An example of a summarizing flow chart referred to in paragraph 1.5.4 is included in Appendix I.

1.5.6 Also, since the Plan is intended to be a document used on board by master and officers of the ship, it is imperative that one copy in the language understood by crew members with responsibilities under the Plan, as well as an English copy, is carried on board. A change in the master and officers which brings about an attendant change in their working languages would require the issuance of the Plan in the new language.

1.6 **Responsibilities for Action.** Responsibilities for preparing and dealing with a marine transport incident involving INF Code materials are generally divided among several entities: governments, organizations, and persons. The severity, or potential severity, of the incident in terms of its consequences typically would determine the level of response and involvement of these entities.

1.6.1 The consignor or shipper is responsible for ensuring that before the transport of INF Code material, carriers are made fully aware of the procedures to be followed, both on board the ship and by shore-based organizations, in the event of an incident involving such materials. It is the responsibility of the consignor or shipper to know and comply with all applicable international, national, state, or local regulations or guidelines pertaining to the shipment of INF Code materials, and how to deal with the all potential difficulties anticipated when shipping by sea. In addition, the consignor should make available to the carrier the appropriate technical information, emergency instructions, and notification information. Generally, the consignor should be prepared to assist in an emergency response to an incident involving any INF Code materials by providing timely and detailed information about

shipments and to send immediately emergency response/support assets to an incident site, if required. The planning for such assistance should be complementary to the Plan.

1.6.2 The carrier also has responsibilities both for safety during transport and in the event of an incident. In general, both the carrier and the consignor should be prepared to respond immediately to an incident involving INF Code materials. The carrier also has the responsibility to know and comply with all applicable regulations pertaining to the carriage of INF Code materials. This may include being informed of the different response procedures in all areas along the route; ensuring that if an incident occurs, it is properly and rapidly assessed by people knowledgeable in responding to incidents involving INF Code material; ensuring that proper emergency instructions are carried on board the ship; facilitating a prompt response by the consignor/shipper and crew in the event of an incident; and ensuring that all required notifications are accomplished in an expeditious manner. Specifically, carrier personnel should ensure that they immediately inform the nearest coastal State, the consignor, and other appropriate authorities and act according to the Plan.

1.6.3 Distribution of the Plan should be as follows:

the shipowner and operator should both keep a copy of the plan and ensure that at least one copy is carried on board.

1.6.4 The Plan should clearly underline the following:

- Without interfering with shipowners' liability, some coastal States consider that it is their responsibility to define techniques and means to be taken against a marine pollution incident and approve such operations which might cause further pollution. States are in general entitled to do so under the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973.

1.7 Planning for incidents involving INF Code materials should be approached as part of a process which also includes the emergency response plans of local authorities and organizations. As noted in paragraph 1.6.1 above, the carriers are to be made fully aware of the international, national, state and local regulations pertaining to the shipment of INF Code materials and potential difficulties anticipated when shipping by sea by the consignor or shipper.

1.7.1 The content of each Plan should be determined by a consideration of the type of ship used for transporting INF Code materials, the packages used for transport, and the potential consequences of related transport incidents. Appendix II provides additional sources of information that may be useful in developing a Plan.

1.8 A shipowner or operator with multiple ships may prepare one plan with a separate ship-specific annex for each ship covered by the Plan and a separate geographic-specific appendix for each coastal State in which the ship(s) operate.

2 ESSENTIAL PROVISIONS OF SHIPBOARD EMERGENCY PLAN FOR SHIPS CARRYING MATERIALS SUBJECT TO THE INF CODE

- 2.1 In accordance with paragraph 27 of the Code, the Plan at a minimum contains:
- .1 the procedure to be followed by the master or other persons having charge of the ship to report an incident involving INF Code materials, as required by paragraph 29;
 - .2 the list of authorities or persons to be contacted in the event of an incident involving INF Code materials;
 - .3 a detailed description of the action to be taken immediately by persons on board to prevent, reduce or control the release, and mitigate the consequences of the loss, of INF Code materials following the incident; and
 - .4 the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities.

- 2.2 The Plan should provide specific information regarding the ship, including:
- .1 the ship name, country of registry, call sign, and IMO identification number, if applicable;
 - .2 the name, address, and procedures for contacting the consignor, consignee, shipper, shipowner or operator on a 24 hour basis; and
 - .3 identification of communication equipment on board.

2.3 **The Coastal State Report:** Paragraphs 29 and 30 of the INF Code provides that the nearest coastal State should be notified of an actual or probable release. The intent of this provision is to ensure that coastal States are informed without delay of any incident giving rise to pollution, or threat of pollution, of the marine environment, or in the event of damage, failure or breakdown of a ship carrying INF Code materials, so that appropriate action may be taken.

2.3.1 **When Required:** The Plan should provide clear, concise guidance to enable the master to determine when a report to the coastal State is required.

2.3.1.1 **Actual Release:** A report to the nearest coastal State is required whenever there is any release of INF Code materials. A report should also be made in the event of damage, failure, or breakdown of a ship carrying INF Code materials which affects the safety of the ship, including allision, collision, grounding, fire, explosion, structural failure, flooding, and cargo shifting; and results in the impairment of the safety of navigation, including the failure or breakdown of steering gear, propulsion system, electrical generating system and essential shipborne navigational aids.

2.3.1.2 **Probable Release:** The Plan should give the master guidance to evaluate a situation which, though not involving an actual release, would present a risk of a release and thus require a report. In judging whether there is such a risk and whether the report should be made, the following factors, as a minimum should be taken into account:

- .1 the nature of the damage, failure or breakdown of the ship, machinery, equipment or the loss of cargo container integrity;

- .2 ship location and proximity to land or other navigational hazards;
- .3 weather, tide, current, and sea state; and
- .4 traffic density.

2.3.1.3 It is impracticable to lay down precise definitions of all types of situations involving risks which would warrant an obligation to report. As a general guideline, the master should make a report in cases of:

- .1 damage, failure, or breakdown which affects the safety of the ship such as allision, collision, grounding, fire, explosion, structural failure, flooding, or cargo shifting;
- .2 failure or breakdown of machinery or equipment which results in impairment of the safety of navigation such as failure or breakdown of steering gear, propulsion, electrical generating system, and essential shipboard navigational aids; and
- .3 loss of cargo container integrity that may involve a release or probable release of INF Code materials.

2.3.2 **Information Required:** The Plan shall specify, in appropriate detail, the procedure for making the initial report to the coastal State. The Organization's Guidelines on Reporting in Resolution A.648(16) provide necessary detail for the Plan writer. The Plan should include a prepared message form, an example of which is included at Appendix III to these Guidelines. Coastal States are encouraged to take note of the information in this Appendix and accept this as sufficient information. Supplementary or follow-up reports should as far as possible use the same format.

2.3.2.1 The initial reporting by on board personnel should include answers to the following questions:

- .1 Are there any injuries on board;
- .2 Is there (or was there) a fire near the INF Code materials;
- .3 What kind of radiological or chemical hazards exist; and
- .4 What are the meteorological conditions, including wind direction?

2.4 **List of Persons, Agencies and Organizations to be Contacted**

2.4.1 The ship involved in an incident involving INF Code material will have to communicate with both coastal State or port contacts and ship interest contacts. The Plan should include descriptions of the primary and secondary communications methods by which notifications will be made.

2.4.2 When compiling such contact lists, due account should be taken of the need to provide 24 hour contact information and to provide alternatives to the designated contact. These details should be routinely updated to take account of personnel changes and changes to telephone, fax, e-mail and telex numbers. Clear guidance should also be provided regarding the preferred means of communication (telephone, fax, e-mail, telex, etc.).

2.4.3 Coastal State Contacts

2.4.3.1 In order to expedite response and minimize damage from an incident involving INF Code material, it is essential that the nearest coastal States be notified without delay.

2.4.3.2 The Plan should include as an appendix the list of agencies or officials of administrations responsible for receiving and processing reports of incidents involving INF Code materials. In the absence of a listed focal point, or should any undue delay be experienced in contacting the responsible authority by direct means, the master should be advised to contact the nearest rescue coordination centre, coastal radio station, or designated ship movement reporting station by the quickest available means to accomplish the report. See IMO list of National Operational Contact Points.

2.4.4 Port Contacts

2.4.4.1 For ships in port, notification of local agencies will speed response. Information on regularly visited ports should be included as an appendix to the Plan. Where this is not feasible, the Plan should require the master to obtain details concerning local reporting procedures upon arriving in port.

2.4.5 Ship Interest Contacts

2.4.5.1 The Plan should provide details of all parties with an interest in the ship to be advised in the event of an incident. This information should be compiled in the form of a contact list. When compiling such lists, it should be remembered that in the event of a serious incident, ship's personnel may be fully engaged in saving life and taking steps to control and minimize the effects of the incident. They should therefore not be hampered by having onerous communications requirements imposed on them.

2.4.5.2 Procedures will vary between companies but it is important that the Plan clearly specifies who will be responsible for informing the various interested parties such as cargo owners, insurers and salvage interests. It is also essential that both the ship's Plan and its company's shore side Plan are coordinated to guarantee that all parties having an interest are advised and that duplication of reports is avoided.

2.4.5.3 In addition to any radiological expertise of the crew, radiological monitoring and assessment may be delivered by specialized monitoring teams. The Plan should identify points of contact for such teams on a 24 hour basis so that they can be notified expeditiously when their assistance is required.

2.5 Shipboard Emergency Procedures

2.5.1 Ship personnel will almost always be in the best position to take quick action to prevent, reduce, or control the release of INF Code material from their ship. The Plan should provide the master with clear guidance on how to accomplish such action for a variety of situations. The Plan should identify situations where standard operating procedures or detailed guidance will ensure that the emergency response is prompt, co-ordinated and efficient. The Plan should not only outline action to be taken, but it should also identify who on board is responsible as well as the tasks of various crew members so that confusion during the emergency can be avoided.

2.5.2 This section of the Plan will vary widely from ship to ship. Differences in ship size, construction, equipment, manning, and even route may result in shifting emphasis being placed on various aspects of this section. As a minimum, the Plan should provide the master with guidance to

address emergencies effecting the safe operation of the ship and procedures to counter actual or potential emergencies involving INF Code materials, including:

- .1 The Plan should outline the procedures for safe removal from the ship of INF Code materials or packages that may have been damaged during loading or unloading.
- .2 The Plan should include various checklists or other means which will ensure that the master considers all appropriate factors when addressing the specific incident. The following are examples of casualties which should be considered:
 - .1 grounding or stranding;
 - .2 fire/explosion;
 - .3 collision;
 - .4 hull failure, serious structural failure, flooding, and/or heavy weather damage, or icing;
 - .5 excessive list;
 - .6 equipment failure (e.g., main propulsion, steering gear, etc.);
 - .7 containment system failure (e.g., release of INF Code, cargo contamination yielding a hazardous condition, or loss of cargo)
 - .8 security threats;
 - .9 submerged or foundered; and
 - .10 wrecked.

2.5.3 Procedures for the crew to prevent, reduce, or control a release of INF Code material.

Loss or damage to the ship may result in the loss of cargo packages. However, for cargo incidents not resulting from a ship incident, a suspected cargo leak which is detected in time and handled properly will not necessarily constitute an imminent threat to the crew or the safe operation of the vessel. However, procedures should be developed and practised for the following incidents:

- .1 abnormal radiation levels detected by remote monitoring instruments;
- .2 discovery of abnormal loose contamination on clothing, shoes or in spaces outside of the cargo hold;
- .3 flask coolant loss or leak;
- .4 movement or shifting of a flask from its transport position;
- .5 unexpected temperature rise at the flask surface; and

- .6 dropping a flask during loading or unloading.

2.5.4 In addition to the checklists and personnel duty assignments, the Plan should provide the master with guidance concerning priority actions, stability and stress considerations, and cargo transfer.

2.5.4.1 **Priority actions:** This section provides some general considerations that apply to a wide range of casualties. The Plan should provide ship-specific guidance to the master concerning these broad topics.

- .1 In responding to an incident, the master's priority will be to ensure the safety of personnel and the ship and to take action to prevent escalation of the incident. In casualties involving a release of INF Code materials, immediate consideration should be given to measures aimed at preventing contamination of personnel, such as altering course so that the ship is upwind of the released or lost cargo, shutting down nonessential air intakes, using protective clothing, etc. When it is possible to manoeuvre, the master, in conjunction with the appropriate shore authorities, may consider moving the ship to a more suitable location to facilitate emergency repair work, cargo transfer operations, or to reduce the threat posed to any particularly sensitive ocean or shoreline areas. Such manoeuvring should be coordinated with the coastal State.
- .2 Prior to considering remedial action, the master will need to obtain detailed information on the damage sustained by the ship and INF Code material containers. A visual inspection should be carried out when it is safe to do so. An adequate number of trained crew members should be on board to assess the situation by means of standard equipment and radiological assessment procedures which will enable proper decisions to be made as to what further action is necessary. In certain cases, radiological monitoring and assessment teams may be required to assess properly any consequences of an incident involving the release of INF Code materials. The initial assessment should include consideration of three basic issues:
 - confirming the quantity and type of INF Code materials involved;
 - ascertaining whether the integrity of shipping containers or packages has been breached; and
 - assessing, by monitoring with appropriate instrumentation, the radiological hazards that exist, if any.
- .3 On the basis of the results of the initial measurements, the master should assess the need for radiological experts to provide advice. The measurement information should be recorded on a map or sketch of the area of the incident to document the measurement results.
- .4 Having assessed the damage sustained, the master will be in a position to decide what action should be taken to prevent or minimize further or a more serious release, and a sufficient number of adequately trained crew members should be on board to assist in

such action. Where appropriate, the Plan should provide a list of information required for making damage stability and damaged longitudinal strength assessments.

- .5 Ships' crew as well as fire fighting and radiological monitoring teams may require protective clothing and respiratory protection equipment. Pre-selecting equipment should be done to protect against radioactive contamination and inhalation of airborne radioactive material.

2.5.4.2 Cargo Transfer. For those INF Code materials where cargo transfer is practicable, the Plan should provide guidance on the procedures to be followed for ship-to-ship transfer of cargo. Reference may be made in the Plan to existing company guides. A copy of such company procedures for ship-to-ship transfer operations should be kept with the Plan. The Plan should address the need for coordinating this activity with the coastal State, as such operation may be subject to its jurisdiction.

2.5.4.3 Mitigation Activities. When the safety of both the ship and personnel has been addressed, the master can initiate mitigating activities according to the guidance given by the Plan. The Plan should address such as aspects as:

- .1 physical, chemical and radiological properties of the INF Code materials involved;
- .2 containment and other response techniques;
- .3 isolation procedures;
- .4 decontamination of personnel; and
- .5 safe storage of any contaminated materials.

2.5.5 In order to have the necessary information available to respond to the situations referred to in paragraphs 2.5.2 and 2.5.3, certain plans, drawings, and ship-specific details, such as a layout of a general arrangement plan, should be available on board. The Plan should show where current cargo, bunker, and ballast information--including quantities and specifications--are available.

2.5.6 Security. Ships may be subject to bomb threats, sabotage, and unauthorized visitors. If not handled properly, these incidents can pose a hazard to the safe operation of the ship. Standard procedures will also prevent overreaction on the part of the crew which could lead to personnel injury. Procedures should be developed for:

- .1 bomb threats and resulting search;
- .2 search of visitors, luggage, vehicles, and freight during times of heightened threats; and
- .3 gangway procedures, including action in the event of unauthorized boarders.

2.6 National and Local Coordination. Quick, efficient coordination between the ship and coastal State or other involved parties becomes vital in mitigating the effects of an incident involving INF Code

materials. The Plan should address the need, where appropriate, to contact the coastal State for consultation and/or authorization regarding mitigating actions. See also paragraph 1.6.1 above.

2.6.1 The identities and roles of various national and local authorities involved vary widely from State to State and port to port. Approaches to responsibility for release response also vary. Some coastal States have agencies that take charge of response immediately and subsequently bill the owner for the cost. In other coastal States, responsibility for initiating response is placed on the shipowner.

3 ADDITIONAL PROVISIONS

3.1 In addition to the provisions identified as core provisions, additional guidance may be provided in the Plan. The topics of such guidance include provision of diagrams and drawings; ship-carried response equipment, including radiological monitoring equipment; public affairs; record-keeping; product response information; and reference materials.

3.2 **Plans and diagrams:** In addition to the plans required by paragraph 2.5.5 above, other details concerning the ship's design and construction may be appended to the Plan or their location identified.

3.3 **Response equipment:** Ships may carry on board equipment to assist in response. The type and quantity of this equipment may vary depending on the type of INF Code materials carried. The Plan should indicate an inventory of such equipment. It should also provide directions for safe use and guidelines to assist the master in determining when such use is warranted. Care should be exercised to ensure that the use of such equipment by the crew is practical and consistent with safety considerations. The Plan should establish personnel responsibilities for the deployment of the equipment, its oversight, and maintenance. In order to ensure its safe and effective use, the Plan should also provide for crew training in the use of it.

3.4 **Shore side Response Co-ordinator or Qualified Individual:** The Plan should provide guidance, if applicable, for the master for requesting and co-ordinating initial response actions with the person responsible for mobilizing shore side response personnel and equipment.

3.5 **Planning Standards:** To facilitate consideration of the amount of response resources which should be requested, possible scenarios should be analysed and accordingly planned for.

3.6 **Public Information:** The shipowners may want to include in the Plan guidance for the master in dealing with the distribution of information to the news media. Such guidance should be fashioned to reduce the burden on ship's personnel already busy with the emergency at hand.

3.7 **Record-keeping:** As with any other incident that may eventually involve liability, compensation, and reimbursement issues, the owner may want to include in the Plan guidance for the keeping of appropriate records of the INF Code material incident. Apart from detailing all actions taken on board, records might include communications with outside authorities, owners, and other parties, and decisions and information passed and received. Details on the radiological monitoring undertaken should also be recorded.

3.8 **Plan Review:** Regular review of the Plan by the owner, operator, or master is recommended to ensure that the specific information contained therein is current. A feedback system should be

employed which will allow quick capture of changing information and incorporation of it into the Plan. This feedback system should incorporate the following two means:

- .1 **Periodic Review:** the Plan should be reviewed by the owner or operator at least yearly to capture changes in local law or policy, contact names and numbers, ship characteristics, or company policy; and
- .2 **Event Review:** after any use of the Plan in response to an incident, its effectiveness should be evaluated by the owner or operator and modifications made accordingly.

3.9 Plan Exercises: The Plan will be of little value if it is not made familiar to the personnel who use it. Training and regular exercises will ensure that the Plan functions as expected and that the contacts and communications specified are accurate. Such training and exercises may be held in conjunction with other shipboard training and exercises and appropriately logged. Where ships carry response equipment, hands-on experience with it by crew members will greatly enhance safety and effectiveness in an emergency situation. After the performance of such exercises, the Plan may need to be modified.

3.9.1 Training Procedures: The Plan may address the training procedures and programs of the shipowner or operator to assure an acceptable level of knowledge and professionalism in the crew. The consignors and carriers involved in the transport of INF Code materials should provide training related to their emergency instructions and the potential hazards of the types of materials involved. Training programs should be geared to the roles that personnel should play in responding to an incident. Provisions should be made for periodic brief refresher training in order to maintain the proficiency of all personnel in the emergency response organization and to review incident experience and practical problems. Guidance on the use of radiological monitoring equipment carried on board should also be provided.

3.9.1.1 The purpose of training is to provide basic information to the ships' crew. The training should cover in brief the subjects clearly applicable to such incidents. The information should include the fundamentals of first aid, radiological hazards, protective measures, and transport regulations (especially those aspects concerning transport documents, markings, labels and placards and fire control). Basic principles to protect people from radiation exposure and radioactive contamination and to control the spread of contamination should be included in the training. The preparation of standard training material is recommended to facilitate the success of such a training project.

3.9.1.2 Technical Training: A more extensive training program is necessary to maintain the skills of the master and ships' officers. Training for these persons should include, at a minimum, incident assessment techniques using radiological monitoring instruments, implementation of protective measures, use of protective clothing and equipment, basic meteorology, and further detailed instructions on the transport regulations and on the packaging of radioactive materials.

3.9.2 Exercise and Drill Procedures: The Plan may also address the exercise and drill program to be carried out by the vessel owner or operator to maintain an appropriate level of preparedness. Exercise scenarios could be developed and used to test the response capabilities and skills of the master and the crew. Exercises could be based upon realistic accident exercise scenarios designed to test all major aspects of the plans. Exercises should aim at testing the effectiveness of communication links, the mobilization of emergency resources, and specialized teams and of the co-operation between agencies

and services involved. One objective of the exercises is also to strengthen the confidence of the personnel that they can adequately handle an incident. Equipment and instruments specified in the emergency plans could be used in exercises. Exercises should be clearly identified as such in communications or messages related thereto.

3.9.2.1 Drills, which are more limited in scope than exercises, are designed to develop, test and maintain special skills of individuals. For example, a communications and notification drill might test the proficiency of personnel in giving notification of an incident, alerting various organizations, and in operating communications equipment. A fire fighting drill could be limited to the operation of fire fighting equipment. Thus, drills can be considered as subsets of exercises, i.e., many drills conducted at the same time, in a co-ordinated fashion, constitute an exercise.

3.9.2.2 Provisions may be made for the critique of drills and exercises by qualified observers. The results of drills and exercises should be used as a basis for improving the emergency plans, as appropriate. Recording of communications and videotaping the exercises are valuable aids for learning by the participants. Reports and critiques of actual emergencies should also be used as training aids.

3.9.3 Provision should be made for testing radiological instruments, communications and other equipment. The condition of equipment should be checked periodically, in conjunction with drills or exercises, and at other times, as warranted. A record of all drills and exercises should be maintained on board the ship showing date and results of the event. Additionally, any faults or deficiencies identified should be documented and corrected quickly.

3.10 **Salvage:** The Plan should contain information on the crew's responsibilities in an incident where a ship is partially or fully disabled, and what constitutes dangerous conditions. A decision process should be outlined in the Plan that will aid the master in determining when salvage assistance should be obtained. The decision process should include, but not be limited to the following:

- .1 Nearest land or hazard to navigation;
- .2 Ship's set and drift;
- .3 Location and time of impact with hazard based on ship's set and drift;
- .4 Estimated time of incident repair; and
- .5 Determination of nearest capable assistance and response time (i.e., for tug assistance, the time it will take to get on scene and secure the tow). When an incident occurs to a ship underway that reduces its manoeuvrability, the master needs to determine the window of opportunity considering the response time of assistance, regardless of estimated time of repair. It would not be prudent to hesitate in calling for assistance when the time needed to repair something goes beyond the window of opportunity.

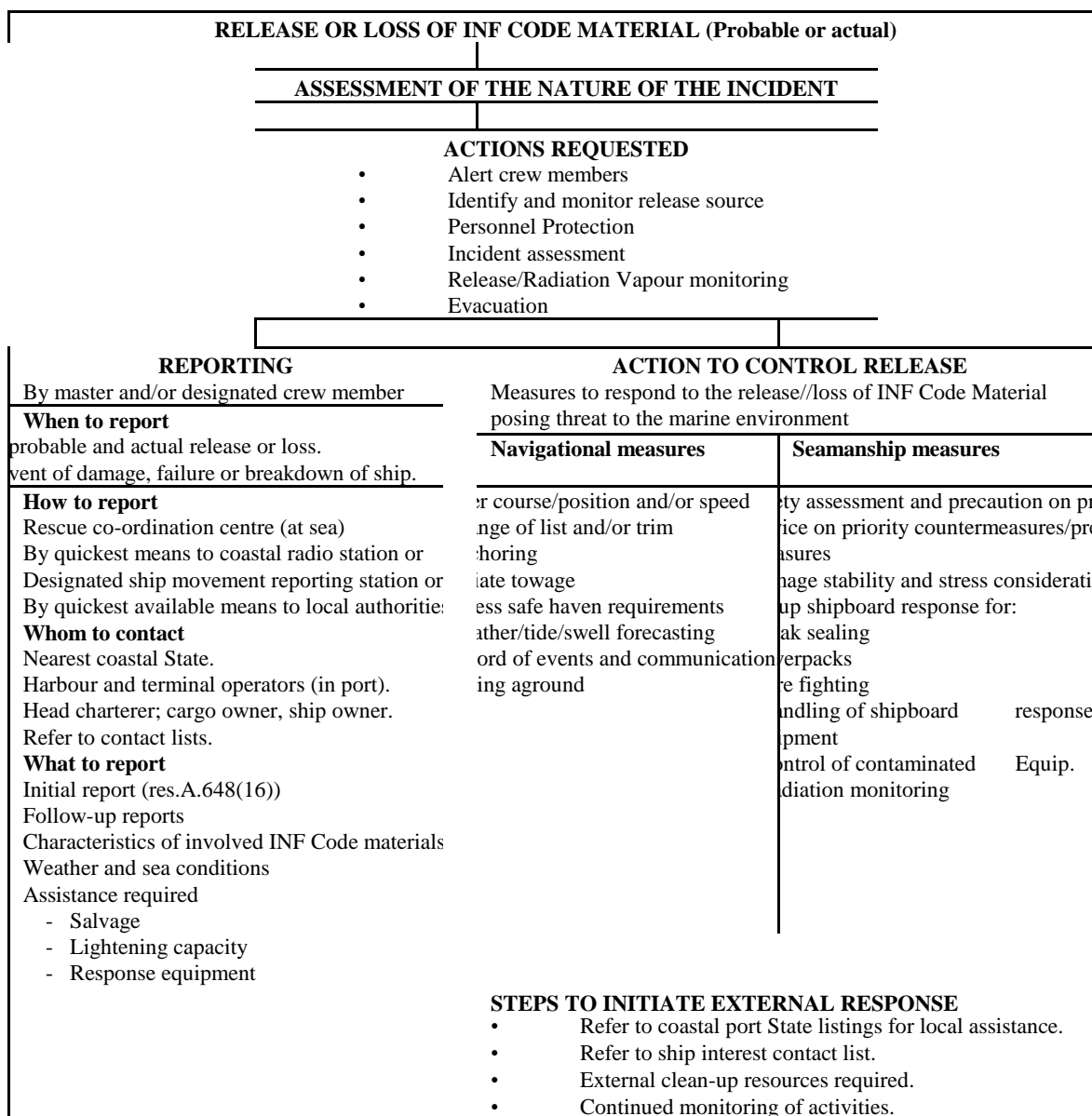
3.10.1 Plans should contain lists and means of contacting and securing salvage assistance.

APPENDIX I

**SHIPBOARD MARINE POLLUTION EMERGENCY
PLAN FOR INF CODE MATERIALS**

Example Summary flow chart

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to an incident involving INF Code materials based on the Guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given for inclusion of specific references to the Plan. The steps are designed to assist ship personnel in actions to prevent or control the release or loss of INF Code materials. These steps fall into two main categories - reporting and action.



APPENDIX II

Additional references for the development of emergency plans for ships transporting material subject to the INF Code

American National Standard (ANSI) for Highway Route Controlled Quantities of Radioactive Materials - Domestic Barge Transport, ANSI N14.24 (1985) (available in English, French, Russian and Spanish).

Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High Level Radioactive Wastes in Flasks on Board ships, International Maritime Organization (IMO), Res. A/748(18) (available in English, French and Spanish).

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, International Atomic energy Agency (IAEA) (1986).

Convention on Early Notification of a Nuclear Accident, IAED, INFCIRC 1335 (1986).

Convention of the Physical Protection of Nuclear Material, IAEA, INFCIRC.274/Rev.1 (1979).

Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material, IAEA, Safety Series No. 87 (1988) (ISBN 92-0-123088-5) (available in English).

International Basic Safety Standards for Protection against Ionizing Radiation and the Safety of Radiation Sources, IAEA, Safety Series Number 115 (1996).

International Convention on Oil Pollution Preparedness, Response and Co-operation, IMO (1990) (ISBN 92-801-1267-8) (available in English, French and Spanish).

International Maritime Dangerous Goods (IMDG) Code, IMO (available in English, French and Spanish).

Manual on Oil Pollution, Section II, Contingency Planning, IMO (year) (ISBN 92-801-1233-3) (available in English, French and Spanish).

Regulations for the Safe Transport of Radioactive Material 1985, IAEA, Safety Series No. ST-1 (as amended, 1990) (ISBN 92-0-1-4996-X) (available in English, French, Russian and Spanish).

APPENDIX III

SHIPBOARD EMERGENCY PLAN FOR VESSELS CARRYING INF CODE MATERIALS SAMPLE FORMAT FOR INITIAL NOTIFICATION	
AA (SHIP NAME, CALL SIGN, FLAG)	
BB (DATE AND TIME OF EVENT, UTC)	
<div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> D D H H M M	
CC (POSITION, LAT, LONG) <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: small;"> N S </div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> d d m m </div> </div> <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: small;"> E W </div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> d d d m m </div> </div>	OR DD (BEARING, DISTANCE FROM LANDMARK) <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> d d d </div> </div> <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> N miles </div> </div>
EE (COURSE) <div style="margin-top: 10px; text-align: center;"> d d d </div>	FF (SPEED, KNOTS) <div style="margin-top: 10px; text-align: center;"> kn kn 1/10 </div>
LL (INTENDED TRACK)	
MM (RADIO STATION(S) GUARDED)	
NN (DATE AND TIME OF NEXT REPORT, UTC)	
<div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> D D H H M M	
PP (TYPE AND QUANTITY OF CARGO ON BOARD)	
QQ (BRIEF DETAILS OF DEFECTS/DEFICIENCIES/DAMAGE)	
RR (BRIEF DETAILS OF POLLUTION, RADIOLOGICAL OR CHEMICAL HAZARDS THAT EXIST)	
SS (BRIEF DETAILS OF WEATHER AND SEA CONDITIONS)	
<div style="display: flex; justify-content: space-between; width: 100%; font-size: small;"> direction <div style="border: 1px solid black; width: 100%; height: 15px;"></div> </div> <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> speed (Beaufort) </div> </div>	<div style="display: flex; justify-content: space-between; width: 100%; font-size: small;"> direction <div style="border: 1px solid black; width: 100%; height: 15px;"></div> </div> <div style="margin-top: 10px;"> <div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%; font-size: x-small;"> height (m) </div> </div>
TT (CONTACT DETAILS OF SHIP'S OWNER/OPERATOR/AGENT)	
UU (SHIP SIZE AND TYPE)	
LENGTH: (m) BREADTH: (m) DRAUGHT: (m) TYPE:	
XX (ADDITIONAL INFORMATION)	

Footnote: The alphabetical reference letters in the above format are from "general principles for ship reporting systems and ship reporting requirements, including Guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants" adopted by the International Maritime Organization by resolution A.648(16). The letters do not follow the complete alphabetical sequence as certain letters are used to designate information required for other standard reporting formats, e.g., those used to transmit route information.

ANNEX 13

WORK PROGRAMME FOR THE MEPC FOR THE 1998/1999 BIENNIUM

Prevention

1 With regard to the measures aimed at the prevention of pollution, the Committee, at its thirty-seventh session, noted that items on its agenda which are to be updated on the basis of continuous activity or information regularly received, do not require prioritization. Such items are, *inter alia*:

- .1 work of other bodies;
- .2 reports on sub-committee activities;
- .3 technical assistance;
- .4 the role of the human element with regard to pollution prevention;
- .5 follow-up action to UNCED;
- .6 reports on reception facilities;
- .7 status of conventions;
- .8 identification and protection of special areas and particularly sensitive sea areas;
- .9 casualty investigation in relation to marine pollution; and
- .10 future work programme.

2 The anticipated items on the Committee's agenda for the coming biennium, other than those referred to in paragraph 1 above, are:

- .1 harmful aquatic organisms in ballast water;
- .2 review of Annex I and II of MARPOL 73/78;
- .3 INF Code related matters;
- .4 measures to promote implementation of Annex VI of MARPOL 73/78;
- .5 harmful effects of the use of antifouling paints for ships;
- .6 review of Annex IV of MARPOL 73/78;
- .7 application of formal safety assessment in IMO rule making; and
- .8 ship/port interface matters.

The Committee decided to give higher priorities to items 2.1-2.4.

Response

3 With regard to the measures aimed at improving the preparedness and response capability to pollution incidents, the continuous items are as follows:

- .1 promotion of R&D in oil pollution preparedness and response;
- .2 OPRC/IMO training strategy, programme and implementation;
- .3 overview of development and implementation of technical co-operation activities, including IMO/Industry Global OPRC Initiative;
- .4 overview of regional co-operation and work of other bodies; and
- .5 overview of Organization functions and activities under OPRC Convention article 12.

4 Other items on the Committee's agenda for the coming biennium in the response field, for which the Committee should assign priorities, are as follows:

- .1 reviewing/updating combating manuals and guidelines;
- .2 compatibility standards;
- .3 developing/reviewing OPRC Model Courses;
- .4 preparation of the instrument to expand OPRC to hazardous and noxious substances;
and
- .5 preparedness and response related to carriage of INF Code material;
- .6 review of the criteria for the selection of substances annexed to the 1973 Intervention Protocol.

The Committee agreed to give higher priorities to 4.4 to 4.5.

ANNEX 14

LONG-TERM WORK PLAN (UP TO 2004) IN THE FIELD OF MARINE ENVIRONMENT PROTECTION

I MARINE ENVIRONMENT PROTECTION COMMITTEE

1 Objectives

1.1 Pursuant to the provisions of Articles 1 and 38 of the Convention on the International Maritime Organization, to encourage adoption of the highest practicable standards in matters concerning the prevention and control of marine pollution from ships with due regard to the context of resolutions A.500(XII) and A.777(18). More immediately to promote world-wide acceptance, implementation and uniform interpretation of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) as well as the International Convention for Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC Convention).

1.2 To adhere to the principles and declaration adopted by UNCED in the field of marine environment protection and response, including the principle of precautionary approach.

1.3 To provide the necessary machinery for performing any duties assigned to it and to maintain such close relationship with other bodies as may further the purposes of the Organization.

1.4 To promote, in co-operation with UNDP, UNEP, IBRD, the World Bank, in particular the Global Environment Facility, and national development agencies, IMO's programmes of technical assistance in the field of marine environmental protection, including the management and execution of large scale projects.

2 Specific subjects

2.1 Implementation, enforcement, amendment and uniform interpretation of the provisions of MARPOL 73/78 and related codes, recommendations and guidelines, and monitoring of the effectiveness with which the Convention is implemented, including:

- .1 Enforcement mechanism and procedures for the control of ships and discharges under MARPOL 73/78;
- .2 the examination of the role of the human element in all measures aimed at the elimination of intentional pollution and minimization of accidental discharge of harmful substances;
- .3 penalties for infringement of Convention provisions; and
- .4 casualty investigations in relation to marine pollution.

2.2 Follow-up action to UNCED, in particular with respect to the implementation of Agenda 21 regarding the prevention of degradation of the oceans.

2.3 Review of the standards for the design, construction, equipment and operation of oil and chemical tankers.

2.4 Categorization of noxious liquid substances and harmful substances.

- 2.5 Identification and protection of particularly sensitive areas, including a review of resolution A.720(17).
- 2.6 Implementation of the ISM Code with regard to effective management for the prevention and control of marine pollution.
- 2.7 Implementation of the INF Code and related matters, including environmental impact assessment and salvage and recovery of INF Code materials lost.
- 2.8 Consideration of measures to minimize the risks of introducing harmful aquatic organisms and pathogens with discharges from ships of ballast water and associated sediments, with a view to preparing legally binding provisions on ballast water management, together with implementation guidelines thereto, for adoption by a conference in 2002.
- 2.9 Promotion of the provision of adequate reception facilities in all ports and use thereof by ships, including the application of environmentally sound techniques for the treatment and ultimate disposal of ships' wastes and the development of a financing scheme for the establishment and operation of reception facilities.
- 2.10 Consideration of the harmful effects of the use of antifouling paints for ships.
- 2.11 Development of measures to prevent pollution from small crafts.
- [2.12 development of clearing house mechanisms on oil and litter [inputs from all sources, as well as their effects, including from land-based activities,] in response to the UN General Assembly resolution on institutional arrangements for the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (resolution A/51/189).]
- 2.13 Development of measures for the prevention of marine pollution by noxious solid substances carried in bulk.
- 2.14 Implementation enforcement, amendment and uniform interpretation of the provisions of the OPRC Convention, and implementation of the OPPR Conference resolutions, including:
 - .1 national capacity building for main pollution preparedness and response;
 - .2 promotion of bilateral and regional arrangements for marine pollution preparedness and response;
 - .3 promotion of training and transfer of technology;
 - .4 development of guidelines and training materials for response measures, including the development and updating of anti-pollution manuals; and
 - .5 extension of the OPRC Convention to include harmful substances other than oil.

II CONSULTATIVE MEETING OF THE LONDON CONVENTION 1972

[Long-term work plan of the Consultative Meeting of Parties to London Convention, 1972, to which the Organization provides secretariat function, is to be inserted here for information after consideration by the nineteenth Consultative Meeting to be held from 27 to 31 October 1997.]

III IMPLEMENTATION OF THE TECHNICAL CO-OPERATION SUBPROGRAMME FOR THE PROTECTION OF THE MARINE ENVIRONMENT

1 Objective

1.1 This subprogramme falls under the umbrella of IMO's Integrated Technical Co-operation Programme (ITCP). The overall objective of the subprogramme is to assist developing countries to implement and enforce IMO standards aimed at the prevention, control, combatting and mitigation of marine pollution and to promote technical co-operation to this end. In pursuing this objective IMO works in partnership with governmental and non-governmental organizations, other UN Organizations concerned with the protection of the marine environment as well as the private sector. The achievement of the objectives also requires that IMO work closely with donor countries and organizations in the design of programme activities supported by them. Overall co-ordination of the development of the ITCP is carried out by the Technical Cooperation Committee.

2 Programme areas

2.1 The 1997-2000 Subprogramme focuses on the following three broad programme areas:

- Prevention of pollution from ships; (technical oversight carried out by MEPC)
- Marine pollution preparedness, response and co-operation (technical oversight carried out by MEPC); and
- Management of waste disposal at sea (technical/scientific oversight carried out by Consultative Meeting of London Convention)

2.2 Each of the three programme areas are implemented through:

- increasing awareness;
- promoting the ratification and implementation of the relevant IMO Conventions;
- promoting the provision of information (where possible through the use of the internet);
- capacity building through training;
- institutional strengthening; and
- promoting networks of experts and information.

2.3 The main target audiences of the Subprogramme are the:

- Governments;
- shipping and oil industries;
- shipping and oil industry associations;
- training institutions;
- ports;
- seafarers;
- non-governmental organizations; and
- donor countries and organizations.

ANNEX 15

**SUBSTANTIVE ITEMS TO BE PLACED ON THE
AGENDA OF MEPC 41, MEPC 42 AND MEPC 43**

No.	Item	MEPC 41 March 1998	MEPC 42 November 1998	MEPC 43 July 1999
1	Status of Conventions		X	
2	The role of the Human Element with regard to pollution prevention	X	[X]	[X]
3	Reports of sub-committees (FSI, BLG, etc.)	X	X	X
4	Work of other bodies (Assembly, Council, MSC, FAL/SPI, TCC, etc.)	X	X	X
5	Follow-up action to UNCED			
.1	Prevention of pollution from offshore oil and gas activities	X		
.2	Financial scheme for establishment and operation of reception facilities		X	
.3	Issues arising from chapters 17 and 19 of Agenda 21	[X]		
6	Identification and protection of special areas and PSSAs			
.1	Review of resolution A.720 (17)	X	X	[X]
.2	Proposed areas and further measures	X		
7	Interpretation and amendments of MARPOL 73/78 and related Codes			
.1	Progress of the revision of Annexes I and II		X	[X]
.2	Revision of Annex IV	X	[X]	
.3	FPSOs and FSUs	X		
.4	North West European waters	X		
.5	Interpretation of Annex V garbage classification	X		

No.	Item	MEPC 41 March 1998	MEPC 42 November 1998	MEPC 43 July 1999
8	Prevention of air pollution from ships			
.1	Follow-up to the Conference	X	X	X
9	Unwanted aquatic organisms in ballast water	X(WG)	X	X
10	Harmful effects of the use of antifouling paints for ships		X	
11	Inadequacy of reception facilities	X		
12	Promotion of implementation and enforcement of MARPOL and related Codes			
.1	MARPOL - How to enforce it	X(DG)		
.2	Identification of oil pollution sources (e.g. tagging system)		X	
.3	Review of the Implementation Guidelines Annex V Manual		X	X
.4	Implementation of the ISM Code in relation to port State control		X	X
.5	Manual on Shipboard Waste Management		X	
13	Casualty investigation	When reports are received		
14	Pollution prevention equipment under MARPOL			
.1	Performance standards for sewage treatment plants		[X]*	X
.2	Standards for oily bilge water separators		X	
15	Implementation of the OPRC Convention and the OPOR Conference resolutions**	(WG)	X	X
16	INF Code related matters			
.1	Shipboard and shorebased emergency response plans (OPRC Working Group)		X	
.2	Measures to locate, identify and salvage, a sunken ship or lost cargo (OPRC	X	X	X

*Outcome of ISO/MEPC 41

** (see MEPC 40/14, annex 3)

No.	Item	MEPC 41 March 1998	MEPC 42 November 1998	MEPC 43 July 1999
.3	Working Group) Evaluation of specific environmental hazards associated with transport of flasks, and consequences of severe accident scenarios	X	X	X
.4	Any other relevant matters***	[X]		
17	Formal safety and environmental assessment, including environmental indexing of ships			
.1	Report of the Joint Working Group at MSC 69		X	
18	Revision of the list of substances for the Intervention Protocol			
.1	Possible linkage with IBC and IMDG Codes, etc.	X		
19	Application of the Guidelines	X	X	X
20	Future work programme, including those of subsidiary bodies	X	X	X
.1	Work programme for 2000/2001			X
.2	Work plan up to 2006			X
21	Technical co-operation programme	X		X
22	Relations with other UN agencies (UN, UNEP, FAO, UNESCO-IOC, etc.)	(as necessary)		
23	Relations with other international treaties (UNCLOS, Antarctic Treaty, etc.)	(as necessary)		
24	Consultative status of NGOs	(as necessary)		
.1	Review of new applications	(as necessary)		

***Depending on the outcome of A20.

